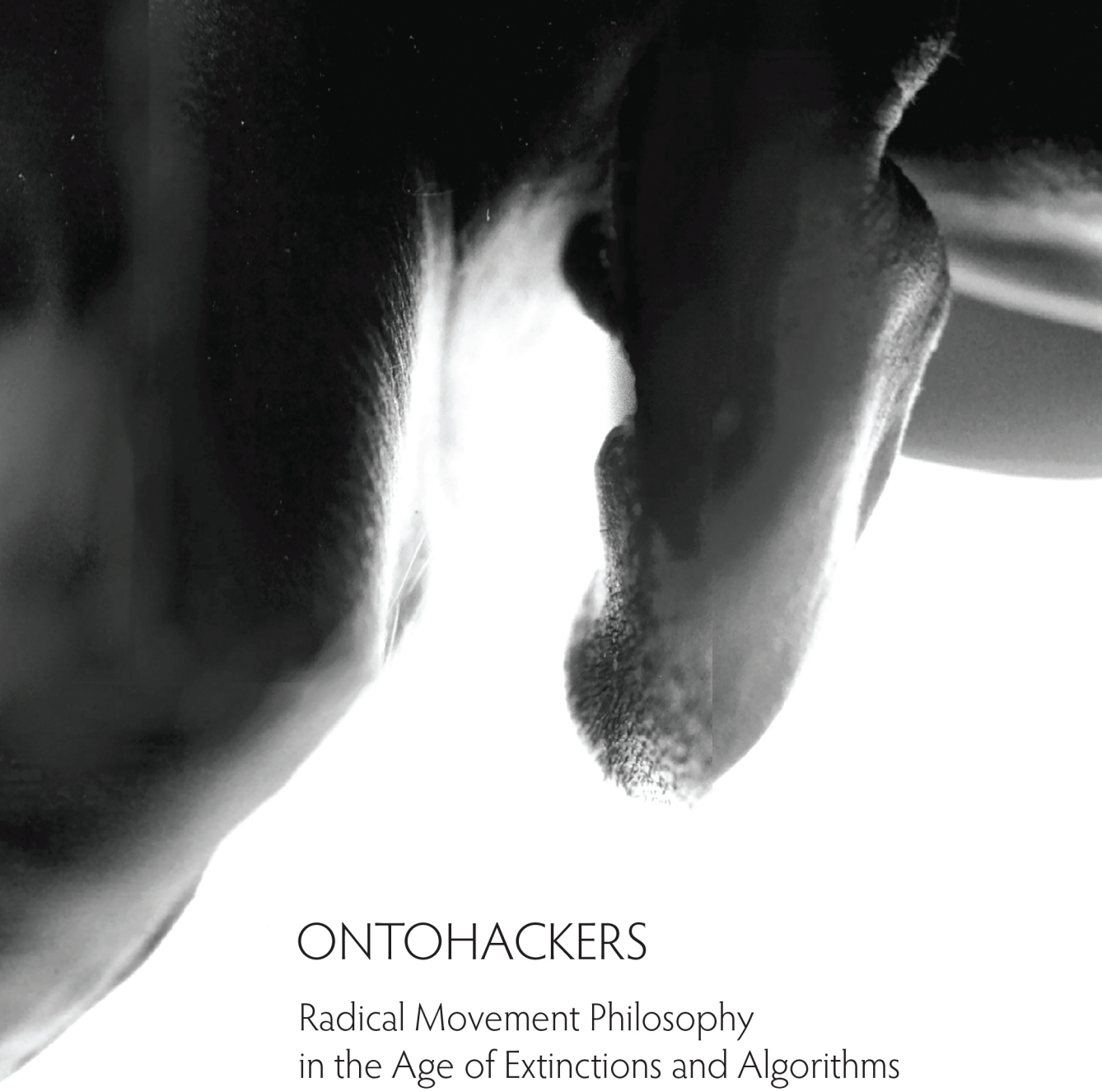

# ONTOHACKERS

## Radical Movement Philosophy in the Age of Extinctions and Algorithms

Part I:
Radical Movement Philosophy and the Body Intelligence R/evolution

Jaym*/Jaime del Val

# ONTOHACKERS I

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*Fig. 1.* Detail from Hieronymus Bosch, *Ship of Fools* (1490–1500)

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# ONTOHACKERS

## Radical Movement Philosophy in the Age of Extinctions and Algorithms

Part I:
Radical Movement Philosophy and the Body Intelligence R/evolution

Jaym*/Jaime del Val

*Metahumanist Philosophy, Aesthetics, and Politics for an Earth Liberation and Regeneration: Undoing Human Supremacism and Its Planetary Holocaust. (Theory-Pragmatics of Metaformativity or Enferance/Enphereia)*

*An Impossible Book for a Metahuman Reader*

# Contents


Warning to the Reader xv
Intra-Actions xix
PRELUDE. If It Were the Case xxiii
METALUDE. Trial against "Humanity" xxv
PREFACE. Where We Stand — 'Til When? xxvii
On the Need for a Radical Movement Philosophy xxxiii
Premises xxxvi
Premise, Take 1 xxxvi
Premise, Take 2 xxxvi
Premise, Take 3 xxxvi
The Rebellion of Bodies against Extinction — Calling Things by Their Name? xxxvii

PART I.
Radical Movement Philosophy and the Body Intelligence R/evolution 39

BOOK 1.
Toward a Movement R/evolution: An Introduction 41
1.1 How We Move: The Power of Movement 41
1.1.1 The Algoricene, or Age of Algorithms: Dominion as Reduction 44
1.1.2 Field Theory of Movement: Perception beyond Radical Embodied Cognition 45
1.1.3 Proprioception and Plastic Evolution 47
1.2 Radical Movement Philosophy 48
1.2.1 The Only Movement Doctrine 49
1.2.2 The Consistency of the Open: Against the Order–Chaos Dualism 51
1.2.3 Fluctuations Un-/In-/Enfolding 51
1.2.4 Toward a Radical Field Theory 53
1.2.5 Why One Cannot Know What a Body Can Do 53
1.2.6 Metabodies as Swarming Ecologies 54

1.2.7 Plastic Realism 55
1.2.8 Proprioceptive Atrophy Is Disability 56
1.3 Proprioception Regained 57
1.3.1 Metabody Techniques 57
1.3.2 BI, Co-sensing, Becomings: Disalignments and the Proprioceptive Swarms 59
1.3.3 Ontohacking: A Radical Pluralist (Meta)politics 60
1.3.4 The Body Is Infinite 62
1.3.5 Beyond the Bio–Techno Divide 63
1.3.6 Double-Reverse Move 64
1.3.7 Disclaimer for Those Who Believe One Cannot Go beyond Power Matrixes 64
1.3.8 The Meta-Turn: Philosophy as Movement 65
1.4 The Book as Metabody 65
1.4.1 The Book's Field 67
1.4.1.1 On Gender Uses 69
1.4.1.2 On Images 69
1.4.2 Diagram of the Concepts and the Book 70
1.4.3 Metastructure 73
1.4.4 (Meta)philosophical Fields 73
1.4.5 Present–Future *n*-Foldings 74
1.4.6 An Impossible Book 75
1.4.6.1 A Great Healing 76
1.5 Dancing Chaos (in Times of the Postpandemic): Postscript on the Virus as Ally (for Metahumanist Mutations) 76

BOOK 2

In Search of Lost Proprioception: A Metaception Theory of Body Intelligence 79
2.1 The Primacy of the Most Neglected of Senses 79
2.2 The Onto-epistemological Muddle, or Proprioception (Im)properly Speaking: Toward a Metaception Theory 87
2.2.1 Listening to Proprioception (without Aiming to Control It) 90
2.2.1.1 Ontotherapy/Ontohacking/Cartesiholic Anonymous Exercise 1: Listening to Proprioception 91
2.3 BI and the Proprioceptive Swarm 91
2.3.1 The Five Levels of the Proprioceptive Field: For a Radical Movement Freedom 95
2.4 Metaception as *(An)archē*-Proprioception 97
2.5 The Extended Proprioceptive/Metaceptive Field 100
2.5.1 Transmodal Continuums: Always More Than Five 100
2.5.1.1 A Flock of 360 Joints; or, How Many Bodies Do We Have? 102
2.5.2 Further Expanding *(An)archē*-Proprioception 103
2.5.3 Environments as Entangled Proprioceptions 106

2.5.4 Neuroplasticity as Sensorimotor Plasticity: Neuronormativity as Narrowing 109
2.5.5 Beyond Image and Schema 111
2.5.6 Beyond Radical Enaction 111
2.5.7 (Meta-)affordances as Proprioceptive Fields 114
2.5.7.1 Ontotherapy, Ontohacking, Cartesiholic Anonymous Exercise 2: From Object to Affordance 116
2.5.8 Intra-action, Transduction, and Metafractal Fields 116
2.5.9 From Assemblages to Metabodies: Noncognitive Perceptions, Extending the Extended Mind 117
2.5.10 Language as Extended Proprioceptive Field 120
2.5.11 The Text Is Body and Not the Reverse 122
2.5.12 Epigenetic Symbiosis and *n*-Trainment 123
2.5.13 Proprioceptive Movement Is Always Premovement 124
2.5.14 Proprioceptive Strands 126
2.6 Proprioceptive/Metaceptive Politics 127
2.6.1 Defeating Choreography 127
2.6.2 Plasticity and Flexibility; or, How to Mobilize BI for Resistance 128
2.6.3 Perceptual Generosity 130
2.6.4 Kinetic/Autistic/Swarming/Nonreductive Thinking and Neurodiverse Ecologies 131
2.6.5 Metaformance Environments as Metatherapies: For a Neuroplastic, Neurodiverse Culture 133
2.6.5.1 Toward a Non-reductive, Radically Embodied Knowledge and a Kinetic Thinking 133
2.7 Epilogue: BI as Metahuman R/evolution 134

BOOK 3

Radical Movement Philosophy: A Radical Field Theory 139
3.1 Radical Movement Philosophy 139
3.1.1 There Is Only Movement, But What Is Movement? 139
3.1.2 How Movement Has Been Thought 142
3.1.3 Movement and Fluctuation as Sole *a priori* 144
3.1.4 Movement beyond and between Actual and Virtual 146
3.1.5 The Quadruple Law of Fluctuation: Intra-action, Transduction, Transvergence, and Transmodality (Enferance Law) 148
3.1.5.1 Quadruple Law of Fluctuation: Recapitulation 153
3.1.5.2 The Anomaly of Causality 156
3.1.5.3 Principle of Nondetermination: Principle of Movement–Variation–Indeterminacy–Relationality–Fluctuation 157
3.1.6 Swarming Ontology as Radical Field Theory 158

3.1.6.1 Rhythm, Contact, Orientation 161
3.1.6.2 Why Movement Cannot Be Reduced to Still Points 164
3.1.6.3 Is There Displacement? Or Is It a Perspectival Illusion? 164
3.1.6.4 Alignments and the Superiority of the Open 166
3.2 Openness (*Clinaos*), Consistency (Metabody), Variation (Intraduction) 168
3.2.1 Openness — Will to Power of Variation — *Clinaos* 168
3.2.1.1 Aliveness, Sensitivity, Resistance 168
3.2.1.2 Indeterminacy and Uncertainty 168
3.2.1.3 *Clinamen* — *Apeiron* — Chaos 169
3.2.1.4 Incipience — Preacceleration as Opening — Indeterminacy 173
3.2.2 Consistency — Metabody 175
3.2.2.1 Open Consistency — Relationality 175
3.2.2.2 Metabodies 177
3.2.2.3 From Body to Metabodies: Transmergent Dynamics 179
3.2.2.4 Amorphogenesis and Metamergence — Antiobject Philosophy — Form Is the Oppression of Movement 182
3.2.2.5 *Metakosmia* — Minor Ecologies — Microsingularities 183
3.2.2.5.1 Grasping Our Entanglement with Larger Metabodies 184
3.2.2.6 Common Body — Frontier Bodies — Economy of Variation 187
3.2.3 Variation — Intraduction 188
3.2.3.1 Enferance/*N*-ferance/*Enphereia* and Other Neologistical Experiments in Search for an Impossible Concept 189
3.2.3.1.1 Enferant Dynamics: Recapitulation 192
3.2.3.2 Intraduction and Eventfulness 195
3.2.3.3 *Technē*s for Cultivating the Shock: Microsingularities and Microrecherche — Openness as Dionysian Affirmation 195
3.3 Rhythm (Affect), Orientation (Desire), and Contact (Sex) 201
3.3.1 Rhythm, Microaffective Ontology 201
3.3.1.1 Rhythmic Plasticity 201
3.3.1.2 Rhythmic Reduction and Domination: Clock-Time and Click-Time 204
3.3.1.3 Counterpoint, Micropolyphony, and *N*-figurations: Strands of Present and Memory 205
3.3.1.4 Modal Affects and Affective–Qualitative Indeterminacy 206
3.3.2 Orientation, Microspacetime, and Microdesire Ontology 209
3.3.2.1 Proprioceptive Spacing for a Theory of Value as Only Qualitative 213
3.3.3 Contact, Microsexual Ontology 214
3.3.3.1 Microsex and Sex as Mutation: A Postqueer Theory of Metaformativity 214
3.3.3.1.1 Beyond Sex as Oppression 214
3.3.3.1.2 Transmodal and Epigenetic Mutation 217
3.3.3.2 Metasex: Modal Sexes, Modal Genders, Modal Kinships 223

3.3.3.2.1 Marco Vassi and the Metasexual R/evolution 223
3.3.3.2.2 Modal Genders: Antibinary and Postqueer Genealogies 227
3.3.3.2.3 Why Ten Billion Genders Are Not Enough 229
3.3.3.2.4 Radical Nonbinarism and Antibinarism: Concluding Claims against Binarisms and Sexphobia 233
3.3.3.2.5 Toward a Micro- and Metasexual Revolution 235
3.4 Coda: Orgiastic Ontology, or a Geopolitics of the Orgy 237
3.4.1 Undoing the Fallacy of Sex-as-Reproduction 238
3.4.1.1 Sex without Origin: Stellar Sex and Beyond 238
3.4.1.2 Bacterial Sex and the Anomaly of (Binary) Meiotic Sex 241
3.4.1.2.1 The Orgy of the Worlds: From Big Bang to Big B.A.N.G., 13.8 Billon Years of Orgiastic Evolution and Reductive Anomalies 242

# Warning to the Reader

This book is outrageously broad in scope. In this it is extremely untimely. I know I am swimming against the current. I deliberately work against the timelier tendency to focus, which I sometimes find limiting, neurotypical, rationalizing, and against the tendency of contemporary thinking to create niches for compartmentalized audiences.

My move is precisely about going out of focus, an ongoing movement of indetermination, a swarming, and an orgiastic thinking, which is actually the opposite of abstraction and generalization, and I abhor the kind of integralist, totalizing, unifying, or holistic approaches. I thereby assume the risk of sounding excessively generalizing and abstract. But feedbacks are welcome for fine-tuning. As this is a book in progress, updates, extensions, and errata will be made available on www.ontohackers.com

This book speaks to and about the unimaginable and impossible, the indeterminate and open multiplicity in us, in everything around us, as well as in language, and beyond language.

Suspended in the middle of a multitude of fields, at the same time close and taking distance from them all, this book persists being always in no-man's-land. The more specialized readers in each field (queer theory, posthumanisms, media arts, embodied cognition, ontology, cosmology, and so forth) will most likely have greater trouble and raise stronger objections in the sections that might feel closer to their fields. Due to the need to ground my proposals in multiple but precarious alliances I have wanted to acknowledge, it may have more "academic" sides along the "lines of flight," resulting in a self-contradictory, unreadable multiplicity "dislocated with itself." With its field complexity and swarm complexity, with its only incipient parts and its folds, with its complex rhythms, which I don't expect everyone to enter.

One may accuse me of too grandiose and r/evolutionary pretentions, but the reverse encyclopaedic approach of this book is part of an ironic and blasphemous turn that presents the dominant tradition, and domination itself, as radically inferior, a cosmic anomaly that needs to be overcome. The purpose of my extensive writing and reasoning in this book is *only for the sake of undoing the empire of reason itself,* while shifting toward a new and old kind of kinaesthetic–corporeal knowledge in motion. It is also the irony of reversing the story of what evolution and revolution were considered to be thus far.

In identifying precursors, I am not implying that I only see them as merely paving the way for my proposals. Rather, it's about doing a different reading of some phenomena that have hitherto been analysed as pertaining to other frames.

New practices demand new modes of thinking. It would be a mistake to frame them in old concepts. So do the new realities and forms of domination we face in the era of hypercontrol, the holocide, and its exponential vortex. The prevailing belief in representationalism is part of the problem and the difficulty to speak about something that is not readily translatable to existing concepts, knowledges, and memories: unimaginable, impossible.

In a field all concepts resonate in a swarming mode, without a linear logic, with continual movements, openings, indeterminacies, with more and less defined zones, a swarming incompleteness. The metaformative turn implies an open, swarming recursivity that implies the movement of thought itself. Along the moves of Friedrich Nietzsche, Jacques Derrida, Gilles Deleuze, Félix Guattari, or Edgar Morin to produce a nonlinear writing that is fragmentary, *différant,* schizoid, or spiralling, here a swarming–fielding is proposed.

This book is for the adventurous and open, those ready to enter a mad Dionysian journey, to join the dance of Zarathustra and its laughter. It will instead put off those tending to this contemporary spirit of precaution, scarcity, and suspicion, of judicious focus and framing, or those holding onto their peculiar frames. But may it stir something in every reader.

This book is also *for everyone and no one.* Its audience is potentially everywhere, from stars and bacteria to "humans" and algorithms: an *impossible, unimaginable audience,* in a far distant future or a pre-Socratic past, but also lurking in every present fluctuation in you, reader.

Like an unknown element, hidden inside an asteroid approaching from the interstellar voids, coming from some faraway supernova explosion, I am the miner presenting it to you in its brute form, unable yet to know what it will be good for. It will be other people's doing to craft it into polished stones. Or let it pass unnoticed by the Earth until some future astronomer discovers it, a billion years from now. Or will it impact on Earth, disseminating its new elements, taking on the cosmic orgy?

During revisions, the mad horse became a mutant pegasus that fled with me into another universe, while I was trying to rebuild the barn, until I realized that there was no way back. It is from this parallel universe that I speak to you.

Lucretius's *On the Nature of Things* was found in a German convent in 1417 by the Italian humanist Poggio Bracciolini. It was the only remaining copy, that had been lying there, ignored for over a thousand years. It may as well have never been rediscovered, like most great works from Antiquity. Is it a coincidence that only Plato's and Aristotle's work have arrived to us almost complete, the dominant ones? I send this book out now as if it were the Voyager space probe, or a message in a bottle thrown into the sea, assuming the risk of travelling forever in the empty interstellar voids, where there are only fluctuations!

*With and for my metaspecies kinship: Sirio, Ana, Lola, Irgan, Negri.*

*To the dog Zara I dedicate this book, as metaspecies love manifesto.*

*To all the victims of the planetary holocaust: the eighty billion sentient beings exploited and slaughtered per year in farms.*

# Intra-Actions

This book has been written mostly through independent study in the context of the Metabody project (since 2013) and now the Bodynet–Khorós project (since 2022), which I coordinate through the Reverso Transdisciplinary Association, and with the support of the European Union's culture program and the Spanish Ministry of Culture's INAEM. As these projects mutated and evolved in new iterations, the book came to embody the set of theoretical research that developed in them, since around 2002,[1] and that serve to set the context for them, while evolving with the projects themselves. It was also initiated after an intense involvement in the Occupy/15M-Indignados movements and has been evolving for nearly twelve years since the Summer of 2012. Final revisions have happened during the quarantine and confinements of the COVID-19 pandemic and afterwards, as I evolve through new life situations.

The list of people who have nurtured this process would be as long as that of the places, non-human animals, online resources, and my own physical libraries, conferences, or concrete practices with which the writing has been woven — starting with my trans-species family and kinship, especially my current life partner, the dog Sirio, our new cat companions Negri and Irgan, and especially the dog Zara, with the hope of seeing her again. In particular I thank my mother, Ana, and my aunt, Lola, for their continued support of my initiatives; my grandparents Ana and Jacinto, who are no longer with us; Fina, who already left us after being for some time, like me, in a parallel world; and our other non-human kinship Ra, Bastet/Mona (whose return we still await), Maia, and Morla/Chico. And old friends like Ana and Paloma who are no longer with us.

I thank Brian Massumi and Erin Manning for their support of this project, particularly Brian for his invaluable help in several revisions of the book between 2017 and 2021, some of them with the added help of Emma Flavian, and of the Senselab team, particularly in relation to part one. I also thank very especially Vincent W.J. van Gerven Oei and punctum books for the immense editorial work and for taking on the feat of publishing this book.

Among those who have supported, as well as inspired, my work over the past eighteen years, I would also like to highlight Judith Butler, Katherine Hayles, Sandy Stone, Donna Haraway, Karen Barad, Erin Manning, Stelarc, Annie Sprinkle, ShuLea Cheang, Claudia Giannetti; my colleagues, friends, and collaborators in Metabody and metahumanism, Jean-Marc Matos, Evi Sampanikou, Yvonne Förster,

1 Published in over one hundred essays, see Jaime Del Val, *Metabody,* https://metabody.eu/jaimedelval-publications/.

Sacha Kagan, Sayak Valencia, Yunus Tuncel, Peggy Reynolds, Luciano Zubillaga, Anna Markopoulou, Tommy DeFrantz, Francesca Ferrando, Stefan Sorgner, Marije Baalman, Dieter Vandoren, Alicia Peñalba, Rubén Lopez Cano, Oscar Quejido, Mariano Rodriguez, Sara Baranzoni, Paolo Vignola, Federica Frabetti, Liana Borghi, Ricardo dal Farra, Felipe Cesar Londoño, Nuria Font, who left us, Llorenç Barber, Kevin LaGrandeur, Lisa Wymore, Harmony Bench, Irina Deretic, Marlon Barrios, Ralph Beuthan, Michele Danjoux, Johannes Birringer, Antonio Camurri, Soledad Arnau, Mónica Lamberti, Muriel Romero, Marcello Lussana, Alejandra Ceriani, Maya Aguiluz, Larissa Ferreira, Maria-Julia Martins, Lorena Peña, Adrián Gomez, Alejandro Jaramillo, Yecid Calderón, Julia Rojas, and Angélica Valderrama; my colleagues of the environmental movements (especially my colleagues from organizations in Almeria), queer, sexwork, public sex movements (especially Diana Junyent Torres and Piro), and Occupy/15M (especially the assembly of Mutant Bitches with Mari(ta) and Roberto from which this book is partly an evolution), and many others emerging and to come.

This book embodies a lifetime so the list could be much longer, I will mention at least my piano and composition teachers, Félix Lavilla and José Luis Turina, and from my London period the head of studies at Guildhall Robin Bowman who recognized in me a round peg in a square whole and who supported my idea of leaving my conservatory studies.

*This world: a monster-prodigy of force, without beginning or end,* [...] *that never consumes, only transforms,* [...] *as play of forces and force waves, at the same time one and multiple,* [...] *a sea of self-ebbing, self-storming forces, eternally self-transforming,* [...] *in the ebb and flow of its manifestations,* [...] *self-affirming,* [...] *like a becoming that doesn't know tiredness or satiety-: this my Dionysian world of ongoing and forever self-creation.*

— Friedrich Nietzsche,
*The Will to Power*

*Movement is reality itself.* [...] *There are underneath the change no things which change: change has no need of a support.* [...] *This alleged movement of a thing is in reality only a movement of movements.*

— Henri Bergson,
*The Creative Mind*

*The new mestiza copes by developing a tolerance for contradiction, a tolerance for ambiguity.* [...] *Not only does she sustain contradictions, she turns the ambivalence into something else.* [...], *its energy comes from continual creative motion that keeps breaking down the unitary aspect of each new paradigm.* [...] *The work of mestiza consciousness is to break down the subject-object duality* [...] *healing the split* [...]. *A massive uprooting of dualistic thinking* [...] *is the beginning of a long struggle, but one that could, in our best hopes, bring us to the end of rape, of violence, of war.*

— Gloria Anzaldúa,
*Borderlands, La Frontera*

[...], *to open oneself up to indeterminacy in moving towards what is to come.*

— Karen Barad,
*Quantum Entanglements and Hauntological Relations of Inheritance*

# If It Were the Case

If it were the case that the sixth major mass extinction were well under way, that a trash-covered planet were on the verge of collapse, with one hundred billion sentient beings enslaved and killed every year in concentration camps called "farms," with an outrageous human overpopulation, forced to massively reproduce, living atrophied in digital confinement, despising their body and planet, wanting to escape in a digital metaverse and into space, with a rich minority killing the planet through an insane way of living and a poor majority wanting to reach the way of living of the rich and self-enslaving for this, where values are so reversed that one calls a mass extinction by the name of "progress," maybe then some people would shout "stop," and something would change.

But since it is not so: an earth garden is being cultivated, ordered, and "enhanced," and "progress" is being promoted, by a superior species that spreads a higher intelligence in the cosmos, with the provisional side-effects of pollution, waste, and environmental instability that will however be soon corrected through a limitless technological power, a power that will allow an infinitely growing population to become immortal and expand in the universe, while the promise of future equality is always reassured to poor and precarious populations, and with nonhumans being cherished in lovely places called "farms." Because this is the case, some people weep silently without even noticing.

(A paraphrase of Franz Kafka's "Up in the Gallery.")

# Trial against "Humanity"

Esteemed colleagues, honorable judges, members of the jury:

I speak on behalf of the Prosecution of the Supreme Court of Terrestrial Rights to present the arguments of the accusation in the trial of 8.7 million species of the biosphere against the dominant branch of *Homo sapiens sapiens,* self-proclaimed "humanity." This "species" is accused of the main charges of **planetary holocaust, human supremacism,** and **mass extinction**. In short, it is charged with **crimes against evolution** or **attack against evolution in the maximum degree** in the only known world with complex life forms: the **greatest possible cosmic crime**.

If the same human justice that humanity applies to the rest of the species were applied to humanity in this trial, it would undoubtedly be immediately put in the farms — concentration camps — created by it and exterminated immediately, in its entirety, or even bred as food for meat-eating animals. But we are here to elucidate other possibilities that do not reproduce the despicable human system of extinction.

As you know, this species has arisen and created a mass extinction in an incredibly short geological period faster than any known previous mass extinction, although at its inception and for the vast majority of its 300,000-year history, this species coexisted with the others, and only very recently, in the unbelievably short geological span of some 10,000 years, did it begin to spread across the Earth like a cancer, an unseen plague, a mass extinction.

As our judicial expert geologists, archaeologists, and meta-anthropologists have been able to testify, this subspecies has created in the blink of an eye a toxic, delirious, oppressive, and unprecedented geological stratum of motley, rigid, and indigestible structures for the planet, which have paralyzed the flows and the continuous mixing and variation of molecular compositions that underlies evolution in the biosphere.

Our judicial expert psychologists have also testified on how the so-called "humanity" as a whole suffers from a syndrome of psychopathy, altered perception, dissociation from themselves and the world, and paranoia for which while being the most destructive and atrophied species that has ever existed, they consider themselves to be the apex of evolution, possessed by a fanatical and supremacist delusion of suicidal domination.

We have heard the testimony of more than ten quadrillion witnesses for the prosecution representing the five kingdoms of life and the 8.7 million species that are threatened or already extinct, who have given accounts of the delirious, toxic, impoverished, oppressive and devastating mode of living of this species, the mode that emerged in the last 10,000 years, not before.

We have also heard some witnesses of the defense.

My allegation has, broadly speaking, three parts:

— the **Pleas of Fact or Statements of Reasons** that pertains to calling things by their name and abandoning the aberrant euphemisms with which human supremacy has imposed the planetary holocaust and holocide (Book 5);
— the **Legal Foundations or Grounds of the Order** that pertain to the necessity of a paradigm shift (Books 2, 3, 4);
— the proposal **for judgment or verdict with precautionary measures** and specific proposals (Book 6).

There is a lot of talk these days about overcoming anthropocentrism, but it is never really done. We anchor ourselves in the centrism of our narrow gaze, the only species that does this. I will take this proposal to the limit, which implies a total questioning of the civilizational process and of human supremacy as a whole.

It is generally ignored that it is the totality of aspects of "civilized" living that implies a devastating occupation of the Earth and extermination of its life forms where progress means extinction and suicide and comfort mean atrophy. There is a lot of talk about the multifaceted planetary crisis and the need for a change, but the elephant in the room keeps being ignored, as if covered by a strange cognitive blur or veil, a *maya* or matrix, a supremacist illusion.

I invite you to examine your gut reactions in the process and, if you get a shock during the presentation, you will be offered ontological therapy for free at the end.

Before continuing, I **ask for a minute of silence** for the 80 billion animals exterminated each year in concentration camps. During that minute, close to 200,000 sentient beings at 3,000 exterminations per second will have died atrociously after spending their entire lives locked up and exploited.

# Where We Stand — 'Til When?

There is only movement. Movement is the relational variation and emergence of fields. Formless fluctuation fields made of rhythms without meter, irreducible to patterns. Never-ending and unstoppable. This universe is such a field made of endless other fields inflating, condensing, propagating, vibrating, and swarming across each other, already for 13.8 billion years of increasing variation. This Earth is another such field of never-ending molecular mixture in the unique and peculiar complexity of its flows. This body is another such field of proprioceptive, internal, and relational, self-organizing fluctuations, resulting from four billion years of symbiogenetic evolutions. But core to this process is to sustain indeterminacy, so that no field closes down on itself, imposing itself, reducing variation.

This reduction is what has arrived, as a cosmic anomaly, over the past millennia on Earth, when certain branches of one species — that had been atrophying itself already for a few million years since the outset of bipedalism, becoming a fearful, self-obsessed creature, and creating a world of reductive, self-referential abstractions — exploded in an unprecedented mode of multiplication, expansion, occupation of the Earth, and exploitation of its life forms, imposing a radical determination of movements, a Great Alignment and homogenization that is ensuing in a mass-extinction cycle.

The reply is thus in regaining movement and its indeterminate variation, broadening perception, but we must also undo the great alignments of the age of extinctions and algorithms, the totality of forms of bodily atrophy, oppressive multiplication, and devastating occupation of the Earth, with an equally Great Disalignment, relearning to move with the world and not against it, toward other ways of living in symbiotic variation.

…

I speak as the nonhuman animal which I am, as nonbinary gendered, neurodiverse mestiza, who has however passed for privileged subject, and in defense of my nonhuman kin.

Over the past millennia, dominant technohuman activity has unleashed the sixth major mass extinction on Earth, while calling it "progress" in a radical reversal of the values of life, which has turned humans into the planet's plague (as Nietzsche denounced already 140 years ago). Every single aspect linked to so-called "progress" is at the very roots of the global crisis, which at the start of the twenty-first century CE is entering an exponential dynamic running toward a *singularity* that could happen already around the middle of this century. Those still believing in "progress" call

it a "technological singularity." Others, including climate experts, speak more about a radical, general, climatic, and civilizational collapse, which I call the "extinction singularity." Both are foreseen by some experts for 2045 or 2050, the time when Artificial Intelligence crosses a threshold, and also when the Earth's population surpasses ten billion, superbacteria become completely resistant to antibiotics, and climate destabilization unleashes a generalized collapse in the entanglement of climatic phenomena and the billions of refugees, food, and water scarcity, not to mention the energy and housing crises, wars, and so forth. Can capitalism mutate yet further to digest such a disaster?

Some readers might think that I am talking about some imaginary science-fictional world, or that I am one of those paranoid catastrophists. The degree to which the current situation is ignored and negated is remarkable, even disturbing. That a mass extinction is going on, a global crisis from which humans themselves cannot escape, is by now so obvious and patent that even conservative institutions like the United Nations openly speak about this. We are creating not *just* a mass extinction, but *our own,* and incredibly quickly. It is not even clear that a generalized extinction could be stopped by now. But, in any event, the powers and elites *profiting* from the extinction process seem to be willing to ignore this, having people believe that yes, there are some problems, but they can be fixed with some patches here and there. Meanwhile they prepare their eventual but impossible escape into space, while the population is increasingly confined and controlled in digital metaverses and pandemic lockdowns, the planet is covered in trash, urbanization and population continue to multiply along with oppressive regimes of compulsory heterosexual reproduction. Furthermore, the human has created its own tautological apocalyptic narrative to conveniently justify the seeming inevitability of this process of domination–destruction.

I seek to reveal the origins of this epochal crisis as lying in a narrowing of the sensorimotor spectrum of one species, *sapiens,* and in how that narrowing has turned this atrophied species into the planet's nightmare, and to propose how to undo this nightmare by *undoing the sensorimotor atrophy* that lies at its very roots, a narrow perception that makes us incapable of, and unwilling to, realize what's going on.

…

Underlying planetary-scale systems of domination and disruption, as well as our daily anxieties and discomforts, is a millennium-old impoverishment of movement and the senses.

Over millennia, cultures of immobility and metaphysics of being, massive reproduction, spatial expansion, quantification, and domination have paralyzed evolution, unleashing an unprecedented type of mass extinction that is also a species suicide.

The planetary holocaust and holocide, that is, complete killing, are a vast, multifaceted process that includes the current mass extinction process and climate crisis, the killing of hundreds of billions of animals, mainly in farms, linked to an excessive consumption of sedentary bodies endlessly multiplying, an extreme human overpopulation, which in turn is associated to an oppressive, heteronormative multiplication regime. Compulsory heterosexuality leads us to extinction through a massive overpopulation, while sedentary culture and its consumerist capitalism is leading us and the planet to extinction by making this massive overpopulation increasingly dependent on utterly unsustainable planetary-scale systems of exploitation and kill-

ing. But overpopulation has emerged with, and is linked to, this insane and disruptive way of sedentary, atrophied living and its intensive agglomerations and exploitation systems.

The reply to the crisis is so far in ignoring it and *reinforcing the very sources of the problem.* For instance, pandemics, which are logically unleashed by ecosystem disruption, are replied to with intensified physical and digital control that in turn intensifies ecosystem disruption, while population, urbanization, and every other possible source of the systemic problem keeps relentlessly expanding, based on a seemingly unquestionable and dogmatic faith in humanist supremacism.

*Overwhelming facts*:

1. we "humans"[1] have turned ourselves into the planet's nightmare;
2. the planet and its quintillions of life forms don't need us, and *they would actually be much better off without us*; but
3. we do absolutely need a healthy, biodiverse planet in order to continue existing as species, in mutation and symbiosis with the other evolving life forms;
4. there is no planet B, and even if there were one, destroying a planet and its unique quintillions of life forms is the worst possible cosmic crime; therefore,
5. our *telos* should be to restore the planet's health and contribute to its evolutionary process of diversification.

It is high time to face these facts.

Over the past 10,000 years we have started a failed evolutionary bifurcation, linked to Earth appropriation and to a reductive mode of rational intelligence and bodily atrophy linked to domination that is interrupting symbiotic evolution. This has been aberrantly presented as "progress," in a radical reversal of the values of life.

The uncomfortable questions need to be tackled without delay (we have a 150-year delay at least, if not a 10,000-year delay or even three-million-year delay), stepping down from the pedestal of human supremacism, not in order to go backward but to move on. Unprecedented *technēs* of life as variation need to be enacted for an evolutionary leap. Not an Artificial Intelligence but a Body Intelligence r/evolution!

...

A new planetary politics is needed that reverses this process and restores planetary health by voluntarily suspending human multiplication until we reach preindustrial or even preagricultural population levels, undoing heteronormative and human supremacist dogmas and disaligning from the false comfort of consumer culture and its outrageous way of life that is killing the planet.

All of this requires a profound transformation of sensibility, a regaining and reinvention of a lost capacity to move and feel, shifting from a culture of splits and fixed points of vision to a culture of bodies moving in entangled proprioceptions, unfolding their Body Intelligence (BI) and regaining a sense of sex, not as compulsory reproduction but as collective evolutionary mutation. Meanwhile we need to reinvent our ways of dwelling, moving, and relating in nonreductive ways to every life form, matter flow, and the planet.

1 I will later question the concepts of human and species, as well as nuance the complex distribution responsibilities in this holocidal process.

At stake is far more than "the future of humanity." We have a cosmic responsibility for the uniqueness of this planet, which is our only possible cosmic medium, and its capacity to host increasing diversity of movements, flows, and life forms, and our *telos* should be *to contribute to its diversity* rather than erasing diversity for the sake of a nihilist and suicidal self-preservation. The self-reflexive rational creature that seeks to paralyze evolution in its own image is a cosmic problem. New intelligences in motion need to be enacted. For millennia, thought has been encapsulated in the narrow alignments of logic because bodies have been moving along the narrow lines of the geometric fields created by them. It is high time to open them up to new disaligned modes of plastic thinking.

...

*Ontohackers* redefines what movement, worlds, and bodies are through the sense of proprioception reconceptualized as *formless fluctuation field,* a movement matrix that is itself also *thought,* and which underlies all life forms and fields including the inorganic. Our worlds are made of endless such entangled fields *n*-folding in variation or *enferance*.

The current planetary crisis has emerged due to an accidental evolutionary alignment, narrowing, and impoverishment of that matrix's indeterminacy that, appearing gradually and eventually with bipedalism several million years ago, created an imbalance between the larger proprioceptive field and its brain, and made the atrophied body extend itself technically in geometric fields gradually covering the planet, along with its fears and will to self-preservation.

The reply is in recovering a lost sensorimotor plasticity that is also cognitive, affective, and relational plasticity, through developing movement *technēs* for cultivating BI, reversing and taking elsewhere the failed evolution culminating in AI and extinction. This could allow humans to abandon their will to domination, immobility, and multiplication.

...

Ontohacking, or "hacking of being," proposes a triple movement:

1. to dismantle the millennia-old conceptual foundations of human supremacism, its ontological fallacies and chimeras of domination and reduction (being, form, mind, human, extensive space, binary gender, order–chaos, etc.) and its narrow perceptions (fixed points of vision) that have unleashed, in an evolutionary blink of an eye, a radical determination, a becoming calculable of the world, a devastating spacetime anomaly, a terrestrial cycle of extinction. We must instead propose a double reverse move away from this systemic domination as a geological anomaly that urgently needs to be overcome;
2. to rethink everything as movement relations, thereby redefining the body, the cosmos, the Earth, societies, perception, or intelligence as fields of fluctuation in variation that must sustain indeterminacy, reinventing the body through the ignored sense of proprioception, to mobilize sensorimotor–cognitive–affective plasticity and open up to indeterminacy the dominant rigid alignments;
3. to undo all separations, recover openness and variation in all relations and get out of the supremacist loop of epochal reduction toward a liberation of all life forms, a Great Disalignment, dismantling the devastating human occupation of the Earth, that is, a metahuman and symbiotic r/evolution of BI in the age of

extinctions and algorithms — vital pragmatics and techniques of movement and perception, a choral (geo)politics of the common body or metabody.

*Ontohackers* proposes an ontocosmological principle where the only inevitable thing in the cosmos is continuous, indeterminate variation, which certain humans in recent millennia have wanted to paralyze (fixing becoming into being), creating an extinction cycle. This is a variation with which we must relearn to move actively, regaining the lost body and its proprioception, and in the process dismantling our devastating occupation of the Earth.

New, more plastic movement and proprioception technologies are needed to take on the movement of variation in evolution, toward planetary health.

I clarify that my proposal is fully aware of other-abled bodies, body diversities, sensorimotor diversities, and neurodiversities. At stake is not moving more but in more varied ways, unleashing an unprecedented variation of perceptions, behaviors, ecosystems, and bodies by cultivating the minimal ongoing variation.

Paradoxically, the search for immobility–stability–order and self-preservation-through-domination has created an *unprecedented, accelerated, expansive, oppressive,* and *superaligned* kind movement on the planet, a *panchoreographic* of disruptive planetary mobility that is also an unprecedented killing machine. Reduction of qualitative variation has unleashed a homogenising regime of pure quantification.

No subject created this. *It is a movement field that emerged by accident,* and human subjects are one of its provisional expressions, of course with diverse degrees of implication and responsibility. Arguably, *it was agriculture and farming that created this process,* building upon on a three-million-years-long evolutionary process in bipeds. Wheat and other cereals domesticated the human as crops accidentally emerged, radically impoverishing the quality of life of gatherer cultures while inducing a massive population growth and large-scale domination systems of Earth appropriation, quantification, and all-encompassing slavery. The prevalence of a reductive kind of intelligence (rationalization) appeared along the techno-epi-phylogenetic evolution by which planetary-scale geometric fields of movement emerged as linked to a reduction in movement variation, favoring verbal and numeric abstractions.

I address what I see as the unacknowledged core of this epochal vortex, that is, the attempt to reduce movements' indeterminable variation by radically impoverishing it and expanding it in seamless homogenous multiplication.

It is this impoverishment of movement-perception that has created an excessively self-aware species that seeks to separate itself from the world's movement, *fixing itself by creating a fixed environment.* A planetary field of impoverished, aligned, geometric movements has imposed itself on the Earth's evolutionary movements of variation, ensuing in a mass extinction that seems to be happening quicker than any previous extinction before, and with unforeseeable consequences. Not by chance do we see the worst nightmares of humanism culminating now with transhumanistic search for individual immortality, associated with dreams of absolute digital control and utter disembodiment through AI and the VR metaverse, creating a complete, reduced, and seemingly controllable, double of the world — the new turn to and ultimate expression of the historical nightmares of transcendence and denial while searching for space escape in view of destroying this planet.

This world-redoubling, propelled as it is by the monsters of the dream of reason, is not without radical consequences. It is an Earth-killing process. How far still can it go?

The Earth-killing species has self-affirmed in its nightmares of destruction precisely because of the narrowing of its sensibility. It is on this narrow capacity to fluctuate and sense that all our fears and narcissistic obsessions are grounded.

For centuries, for millennia, we have been revolving around these narrow obsessions, losing the sense of connection to the world. But this can easily be reverted by regaining the joys of movement and sensation. It is time to become *ecstatic*: out of ourselves, reconnecting with the world, by broadening our sensibility. This is the purpose of a Dionysian politics of planetary regeneration.

It is high time to reverse this tendency of total reduction, this negation of life-as-variation, this cosmic nihilism, that is, by regaining movement's variation.

Evolution and life are processes of never-ending variation and diversification that have been disrupted on Earth over the past millennia and need to be restored. This change cannot come through a rationalist planning that reaffirms the narrow perceptions underlying human supremacism, instead it can be enacted by regaining a lost richness in movement and perception that allows us to stop being dependent on unsustainable systems, to overcome our fears of a fluctuating world, and to regain a sense of entanglement and symbiosis with everything around us, that allows the human to overcome its self-centered awareness and will to self-preservation.

That there is a generalized complicity with this planetary holocide is no wonder, and it is based on the same narrowing of sensibility that has created the holocide itself, that is, human expansion has emerged along the narrowing of its senses and the atrophy of its movements, abstracting itself from the Earth's flows.

The ultimate expression of this transvaluation is in the fact that *we call a mass extinction by the name of "progress."*

...

*Mutate or disappear.* If we are to stop extinction, a change needs to be enacted by developing unprecedented modes of BI, capacities to vary, sense, move with the world that by far *exceed the geometric–verbal alignments that have become dominant.*

Millennia of atrophy and impoverishment of experience need to be reversed. At stake is a real techno-epi-genetic mutation, where environments–behaviors–bodies–brains enter a reciprocal loop of openings that counteract the circle of reductions emerging over the past millennia. Movement is the key, and its power of variation.

The good news is that we have that power in the depths of our tissues, an inheritance from four billion years of symbiotic evolutions.

It is high time to unleash our proprioceptive swarm, the more-than-human amoeba in us.

At stake is to regain the joys of moving, by cultivating the *clinaos,* that is, the *minimal ongoing variation,* as irreducible openness in a world of metabodies. It is from this reinvented body-movement that new relational architectures of the living can be enacted, through choral improvisation practices, for cultivating the smallest ongoing variation in our movement and proprioception, toward unprecedented variations for a BI r/evolution.

...

Millennia of errors need to be undone. *Ontohackers* is about challenging 2,500 years of metaphysics of being and how it crafts our deepest perceptions, world conceptions, and common sense, and proposing instead a metaontology without being, with only movement and becoming, which in turn means radically rethinking move-

ment itself. *Ontohackers* is about undoing an original reversal that has placed rationalist immobility as the only value of life, a humanistic exceptionalism and supremacism that creates a mass extinction of which ontology and metaphysics of being are part — *a cosmic anomaly paralyzing evolution by negating movement. Ontohackers* is about undoing the resilient belief in the inevitability of current processes of planetary disruption. *Ontohackers* is — like in Franz Kafka's gallery — about reversing and revealing what the narrow humanistic perceptions don't want to see: the hidden horrors and truths of this human supremacy, linked to species multiplication (heteronormativity and gender apartheids), ableist supremacy, racism, global ecocide, and the animal holocaust, hidden because values have been reversed and perceptions have been altered.

*Ontohackers* is, most importantly, about opening perception up to greater indeterminacy and richness, reinventing movement beyond given alignments, and regaining the capacity to move in variation with a fluctuating world. *Ontohackers* is about actively resisting every tendency to reduction. *Ontohackers* is about revealing, reversing, and healing, by opening up to indeterminacy things that have become excessively aligned. It is about opening up narrow perceptions and ways of living. *Ontohackers* is about decolonizing ourselves and the world, healing from millennia of humanistic dogmas based on narrow perceptions. An *ontological therapy* and a Dionysian politics.

## On the Need for a Radical Movement Philosophy

This book claims movement as the core question of philosophy and of life, even where it seems absent, because philosophies of immobility and alignment are symptomatic of a negation of movement-as-life.

Radical Movement Philosophy (RMP) not only claims that there is only movement but claims its indeterminacy and redefines it against all the inherited categories that have tried to determine it.

There is only movement. Movement is indeterminate variation. Dominion is always an issue of reducing movement's indeterminacy, determining it, an anomaly that needs to be overcome by regaining indeterminate variation.

This book vindicates the *indeterminacy* of movement and denounces its epochal determination and dismantles the problematic conceptions that underlie it. I propose instead a redefinition of movement and, with it, of every other concept and practice.

This book denounces that the totality of planetary problems, of nonhuman and human oppression and of personal discomfort, come from a set of systemic and epochal *determinations* of movement.

This book sets out to reverse an original reversal in which philosophies and cultures of being, immobility, alignments, reduction, and algorithmic control have taken over becoming, movement, and the ongoing transformation of the world, literally paralyzing evolution with a mass-extinction cycle emerging over the past ten millennia. Restoring evolution as never-ending becoming, mutation, and symbiosis implies undoing a wrong and dominant vision of the world as made of beings, individuals, or points moving in a pre-existing space, that is, a vision inherited form Aristotle and mechanism, of movement as displacement in a fixed space, with a causal relation to a goal, a *telos* in transcendent form, and an origin in individual desire. Movement instead is an issue of formless fluctuating fields, which are both

the bodies and the "space" and in whose dynamics of eternal, unstoppable, relational variation, a chaosmos unfolds.

The radical implications of such a turn are that it is not enough to theorize becoming while keeping our alignments intact. One must relearn to move–think with the world if we are to overcome the epochal disaster of philosophies of being and their mass extinction cycle. Hacking *ontos* (being) and all its human supremacy dogmas, means undoing all the set of alignments that underpin it, for unleashing a metahuman mutation. Reinventing bodies through the sense of proprioception is part of a movement pragmatics and a politics of indeterminacy, for a planetary regeneration.

...

This book proposes that the epochal processes of Earth destruction currently unleashing the sixth mass extinction, linked to large-scale technohuman systems of domination emerging with agriculture and rational thought, have come along an impoverishment of movement and a problematic way of moving and of thinking movement itself, linked to a metaphysical tradition that defines being as immobile, and actually bringing with it an evolutionary stasis.

Both our ways of thinking movement, and our ways of moving, are radically biased by the dominant, millennia-long tradition that has wanted to impoverish movement for the sake of dominating it.

This book seeks to reverse this tradition by proposing a radical redefinition of what movement is through a *radical field theory* where movement is primarily understood as *indeterminate fluctuation that fields forth in variation*, where at stake is not only the mobilization of plurality, but also indeterminacy and openness, and the undoing or prevention of reductive alignments.

A new way of thinking movement, and of moving–sensing–thinking, is needed that diagnoses the movements underlying immobility chimeras, and that allows us to distinguish between movement regimes not only in terms of different modalities, but of degrees of variability, openness, and plasticity. Here lies the politics.

RMP is a turn toward thinking that

1. there is only movement;
2. movement is intrinsically indeterminate and irreducible to form or quantity;
3. this irreducibility is core to evolution as variation; so
4. its epochal reductions need to be diagnosed and undone.

RMP redefines movement and all of reality, as fluctuating fields, entangled and in variation. RMP does away with the grand immobile chimeras of being and mind, form and quantity.

RMP proposes to free movement from all the wrong concepts stemming from the metaphysical tradition that has tried to bind it: form, trajectory, being, quantity, fixity, space, object, matter, image, mind, and even time.

RMP works against the principle that movement implies determinations, forces with quantities and hierarchies, or expression in forms.

RMP proposes a formless account of movement where the consistency of the open unfolds through the trope of the fluctuating field. Form is not a feature of movement but an epochal means to reduce it, dominate it, a recent invention of agricultural and geometric societies, and its associated perceptions.

Form, pattern, trajectory, and quantity need to be radically questioned as part of the morphocentric tradition, the becoming calculable of movement.

*Ontohackers* also proposes to overcome the actual–potential or actual–virtual framework by claiming the *metaontological indeterminacy of movement,* its irreducibility to determination, always and everywhere, but to different degrees.

RMP claims that movement doesn't create patterns. Rather, it creates *formless fields of variation irreducible to patterns and to quantification.*

Redefining movement without seeking recourse to the notions of trajectory or form demands a metaontology without being, of formless fluctuating fields unfolding in variation, which implies redefining bodies, perception, and thought.

RMP thus proposes a theory of perception based on proprioception, thus also of intelligence, "cognition," or thought as self-organizing, swarming, fluctuation fields. It is a theory of knowledge as movement aiming to diversify, as opposed to the knowledge that paralyzes in order to dominate, presenting neurotypicality and *verbocentrism* as reductive anomaly. Instead, BI is the self-organizing intelligence capable of developing into infinitely varying modes, as a nonreductive and creative capacity to move with a world in variation, challenging the extinction cycle that has been unleashed perhaps since the predominance of verbocentrism and semiocentrism.

RMP proposes a chaosmology and evolution theory, of self-organizing, swarming fluctuation fields in never-ending variation.

RMP proposes a choral theory of societies as flocks and rhythmic fields with diverse degrees of openness, a theory of *alignments* for analyzing and opening closures, and a claim for techno-indeterminacy.

RMP is therefore a diagnosis of the epochal inflection of extinction as a determination of evolutionary variation on Earth by means of alignments, that is, a geometrical–algorithmic becoming of movement, which imposes itself homogeneously and creates accumulations and blockages (property). This is a tendency toward the quantitative and repetitive, to acceleration and expansion, where reduction of internal variation yields homogeneous acceleration and unleashes an era of repetitive and imitative knowledge that paralyzes variation, a spacetime anomaly of homogenization and impoverishment, of evacuation of life forms and their movement, of external orientations of desire, and of reduction of sex and affects to repetitive and controlled patterns.

RMP proposes a metaformative aesthetics, ethics, and politics of plastic movements–perceptions and cosensing, a choral politics for a liberation of all life forms. This is a move away from semiocentric, verbocentric, discourse-centric, and representational politics of wilful individual rights–freedoms–desires, claiming instead a diversity and freedom that implies indeterminacy of movements and relations, that is, a BI, *Metahuman R/evolution for a Great Disalignment.*

This book proposes an unprecedented feat, which is a real and urgent techno-epiphylogenetic mutation of the dominant species, in the opposite direction of transhumanism, by regaining a lost plasticity in movement and the senses and taking it beyond.

For the BI r/evolution,[2] at stake is no less than to overcome the evolutionary failure of rational intelligence together with all its humanist, anthropocentric supremacism and its reductions, toward a new mode of plastic intelligence, kinetic, corporeal, and neurodiverse: a world of metabodies.

2 My use of the term *r/evolution* is partly ironic because revolutions so far were humanist and biased by a static perceptions of things, which is why they always failed. Therefore, revolution cannot but be an evolution.

The way out of the humanist dead end and its planetary crisis is not in rationality, nor in holding to any supposed distinct features of the human. "Human nature," like all nature, should be the capacity to vary, symbiotically diversify, that is, multiplicity, not multiplication.

This implies an actual mutation that reverts the failed evolution starting three million years ago, undoing the alignments leading to excessive separation and abstraction by regaining the lost body and taking it into unprecedented variations. We need to revert the very evolutionary process by which narrow alignments emerged in the first place and look beyond, but in exactly the opposite direction to transhumanism.

*Trouble came when movement got aligned and divorced thinking from the body-movement.*[3] The less we vary our internal movement field (proprioception), impoverishing our experience, the more we expand and displace in search of *creating an atrophied world that mimics our poverty*.

This is the radical paradox that we need to address though a radical movement philosophy that diagnoses movement regimes and is able to look beyond them.

## Premises

### *Premise, Take 1*

1. This book is about *learning to move without imposing oneself on others,* that is, moving with others creatively and fostering diversification in the world by *broadening sensibility,* acknowledging the relational nature of our worlds, and enabling openness, indeterminacy, and variation.
2. These "others" imply non-humans, humans, and inorganic others; so
3. at stake is diagnosing and undoing the regimes by which certain movements (of human–technical bodies) radically impose themselves on others (humans, non-humans, and the inorganic) through often unacknowledged forms of oppression that are eventually causing a mass extinction and a planetary crisis based on a millennium-long *narrowing of sensibility*.

### *Premise, Take 2*

This book proposes that the current planetary crisis has its roots in a *millennia-long impoverishment of movements and sensibility* in one species, *sapiens,* and proposes to reverse that situation by undoing the sensorimotor impoverishment that lies at its roots, that is, as a lost capacity for minimal, ongoing variation, emerging perhaps since bipedalism inaugurated an increasingly fixed body that abstracts itself from the world, imposing on the world its own fixity and self-obsessions, that has ensued in accelerated expansion through homogenous movements that underlie all forms of oppression and are bringing the planet to a mass extinction cycle and a general collapse.

### *Premise, Take 3*

This book proposes a cosmo-onto-ethico-eco-aesthetico-politics of *enferance* as *sustained, internal, and relational variation,* that is, a *technē* of *minimal ongoing variation* in movement and perception. This implies redefining bodies–worlds as formless fluctuation fields, unfolding in the balance of consistency and openness, sustaining

3 See my "articulation-separation hypothesis" in the Algoricene section in Book 5 for an evolutionary theory of how this process may have emerged from bipedalism.

indeterminacy, irreducible to form. This implies resisting and undoing a millennia-old tendency that has reduced the movement of variation in favor of a movement of alignment in an internal stasis and multiplication in quantity, including the multiplication of the dominant species. This reduction of variation in favor of controlled multiplication has paralyzed evolution, unleashing a mass extinction and a planetary crisis. Therefore, indeterminate variation needs to be restored.

## The Rebellion of Bodies against Extinction — Calling Things by Their Name?

Can we stop talking as if a mass extinction were not under way?

Until when are the critical intellectuals of the world going to continue finding a thousand excuses to reaffirm human supremacism in a more or less covert way, to not question their way of living, to censor the discussion and prevent the emergence of a collective, powerful, and serious voice that puts on the table without palliatives the greatest taboos of supremacism (overpopulation and the way of life based on the devastating occupation of the Earth and the abuse and extermination of other forms of life)? Not to mention the mob of conservative fanatics of all types, nationalists, fascists, religious and others, including transhumanists, who will do anything to prevent us from starting a serious debate. Can we start a proactive discussion about how to face these challenges instead of how to avoid them? Can we stop looking for excuses of all kinds to avoid facing the amendment to the totality of forms of systemic dominion that is proposed here?

For a start, *we could call things by their name*. We could start naming it "mass extinction" instead of "progress," "concentration camp" instead of "farm," "oppressive reproduction regime" instead of "family," "atrophy" instead of "comfort," "slavery" instead of "work," "Earth-killing" instead of "quick transport," "holocide" instead of "global trade," "trash-human" instead of "transhuman," "hypersurveillance" instead of "connectivity," "fascist desert of the real" instead of "social network," "hypercontrol device" instead of "smartphone," "heavy surveillance machinery" instead of "digital cloud," "impoverishment" instead of "enhancement." Could we also start realizing that alternative modes of living exist and need to be mobilized?

In a book of 4,000 pages narrating the history of the Earth, human civilizations would occupy only the last word. Which word could this be? "Supremacism," "holocaust," "extinction," or "holocide" are candidates.

We have been told that reality is made of entities and that one should strive for permanence, solidity, and a stable immobility, while paradoxically the search for control has created incredibly rapid movements and a superdynamic algorithmic control that is unleashing a planetary crisis, a mass extinction. *Ontohackers* reverses this story by affirming that there is only movement, that movement is always indeterminable, and that we need to relearn to move in a world in variation without attempting to determine it, contributing to its diversity, that is, if we are to stop the mass extinction that could unleash a global collapse in the coming decades caused by the will to control movement by impoverishing it.

*Revocalypse* is to dismantle the millennia-old conceptual foundations of human supremacism and its *apocalyptic telos,* reversing the anomaly of planetary domination that leads us to extinction, recovering the lost body, reinventing the dominant ways of living, regenerating the planet, resonating and resisting, turning the entire human project and its intentional *telos* of domination upside down, turning it against itself,

reversing all domination into indeterminacy, all being into becoming, all stasis into motion.

Humanity lives alienated on a pedestal of supremacism pretending that it can respond to problems with the same desire for control that has created them, ignoring the elephant in the room, which is itself, its desire for multiplication and expansion. The future is not in intentional politics but in recovering Body Intelligence, an ability to move with a world in fluctuation that we have atrophied and that we can relearn from all forms of life, *for a planetary liberation of all life forms.*

…

*Amorphogenesis* is a reversal of millennia of reduction of movement to forms that has imposed itself on the Earth unleashing an extinction, and a vindication of the indeterminacy of movement for a planetary liberation of all life forms.

…

But the epochal vortex seems to be unstoppably running in the opposite direction as the Algoricene continues to superfold on itself like a black hole-like exponential vortex that seems to be going toward an extinction singularity. For it is uncertain that the upcoming planetary cyborg of algorithmic life can self-sustain in a dying planet, and if it can it is nevertheless the worst nihilistic nightmare. How far will the field of reduction mutate still, making unprecedented new businesses out of climate change, migrations, pandemics, new ubiquitous and hybrid wars, or the flights to an AI and VR metaverse of total control, and to space?

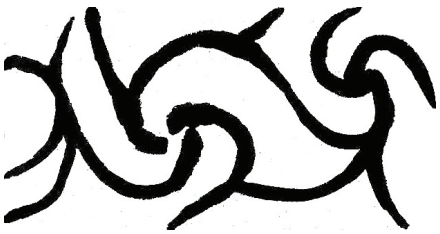
We have the weapon against this in the smallest fluctuations of our tissues, and a body's rebellion is needed if we are to stop extinction by mutating deeply in our sensibility.

Who's up for mutating? Who's up for metahuman r/evolutions?

It is time to become ONTOHACKERS.

# PART I

## Radical Movement Philosophy and the Body Intelligence R/evolution



# Toward a Movement R/evolution
## An Introduction

### 1.1 How We Move: The Power of Movement[1]

How we move is how we think,[2] feel, know, perceive, relate, and collectively create our worlds. How we move changes the epigenetic expressions of our DNA,[3] our metabolism, our emotions, our cognitive potentials, and our ecosystems. The more we align our movements with a reduced set of possibilities, the narrower and more rigid our realities. The more plastic our movements, the richer and more plural our worlds.

The combinations of our 360 joints, of our internal movements and sensations, of our qualities of experience and relation are infinite. Our nervous system, tissues, and joints have a decentralized, self-organizing capacity for infinitely varied configurations, as do our swarming affects, thoughts, ecologies, and cultures.[4] This plasticity, however, requires practices or techniques for its unfolding and sustainability.

Movement, and in particular dancing as a plastic, open-ended, and varied kind of it, alters epigenetics and hormones, produces endorphins, and creates brain synapses. It makes us feel connected to ourselves and the world, generates empathy, self-esteem, increased and creative capacity to move with the changing world around us. This not a simple "survival strategy" of bodies and their biochemistry, it follows a deeper cosmic principle of variation where always new molecular compositions appear. Pleasure is the name we give to a complex bodily quality of the much older tendencies of molecules to create always new compounds, and of organisms to symbiotically vary, to move with an ever-changing world propelled by quantum fluctuations, embedded also in the brain's plasticity, a brain which has appeared and is there for movement's sake, and not the reverse. We are neither our brains nor our DNA. We are *our movement*! Which means the *capacity to vary with a world in variation.*

1 A contracted and modified version of this introduction was published in *World Futures;* see Del Val (2020c).

2 I am building here upon embodied cognitive science and taking it beyond its usual boundaries.

3 See Bowman (2017) on how movement changes gene expressions. Epigenetics is a new science that studies how genes express differently according to environmental and other conditions.

4 Movement is the node in between our environmental technogenesis and our bodily epiphylogenesis. Movements affect and indeed constitute both fields and their irreducible entanglement.

Movements create the brain structures since we are born and also intelligence. The cerebellum is the crossroads between sensorimotor coordination and cognitive–emotional development, operating similarly on both through the establishment of connections between regions.[5]

The immense benefits of movement (and, more particularly, of varied, qualitative, and rich movement such as dance) for physical, mental, emotional, social, biological, metabolic, cognitive, medical, psychological, and emotional development and health, and the proliferation of practices that seek to stimulate those benefits, are increasingly studied.[6]

Moving, particularly dancing, is like a natural drug, in the absence of which apparently humans have developed endless addictions to habits and substances which however lack most of the other crucial benefits of movement.

Since prehuman times, animal, and later human, societies have danced or moved in rhythmic richness and fluctuation, as core means of cohesion and enrichment of experience, of embodied knowledge and relation.

More importantly, body–movement is the source not only for richer lives, but for liveable lives and futures within the entire planetary environment, as our immobility and alignment are directly linked to the planetary ecological crises, as well as to nonhuman and human oppression, as we will see.

A rich and lively moving–sensing body is perhaps the only real source for "egalitarian," self-organizing, truly nonhierarchical ways of living, not just for humans but for all life forms. Such a body can and needs to be regained and taken into novel variations that take us out of the black hole of human supremacist devastation.

…

Over millennia, a culture of immobility and atrophy, a problematic and narrow way of moving, perceiving, and relating, has made itself dominant on the planet, culminating in a culture of *fixed points of vision* stemming from Renaissance perspective, where bodies have been aligned with ubiquitous frames establishing categorical splits. Paradoxically, progress and civilization have been considered superior the more atrophy has been built into bodies, following a problematic model which despises the body and presumes a disembodied mind. The farther we reach, dominating, the more immobile we become, bodies clicking on screens, impoverished and enslaved.[7]

The humanist, colonialist, and Cartesian assumptions that the mind is distinct from the body; that subjects are autonomous entities split from one another and from their surrounding; that bodies, objects, and territories are calculable entities subject to the dictates of a superior rationality; or that man and woman, or nature and culture, are universal categories in a world made of clearly bounded entities: all of these, amongst other assumptions, reign supreme at least in Western democracies and ground many of the most significant rights associated with the equality and freedom of the *rational individual.*

5 The sensorimotor is thus inextricably linked to the cognitive and emotional directly though the coordination in the cerebellum. See Stoodley et al. (2016).

6 See, for instance, Vincent (2020) exposing many of these aspects.

7 This privileging of a presumed disembodied immobility lies at the core of slave societies, colonialism, and its planetary-scale disruption of ecosystems, therefore underlying climate change and pandemics.

All this goes together with an endless series of categorical dualisms[8] which are taken to be universal and essential to social organization, or even life, though they have recently been criticized as cultural, discursive, linguistic, and performative constructs subject to ongoing reconfiguration.[9]

While this might seem like an excessively negative and monolithic account of the dominant cultural system, my proposal is not to collapse, negate, or undo its structures completely, but rather to work through these systemic reductions, subtly opening them up through movement, mobilizing and enriching them, looking at their promising openings, and learning from their errors. Critique is an immanent movement to every process. At stake is to understand when excessive reduction becomes a problem, and to revert it.

I do not assume that reduction is always necessary or that politics is about being able to shift and reconfigure who reduces what and how. Instead, I propose the possibility of mobilizing and sustaining *less reductive ways of living*.

I suggest that reductive linearities, totalities, splits, and dualisms rely not on ideology or discourse, nor on any universal conditions, but on particular ways in which movement and perception have become articulated, over millennia and, in particular societies, in terms of strict geometries. I will call these processes of reduction of movement to geometry *metaformative*[10] rather than performative since they are not limited to the reiteration and displacement of existing discursive structures but to the emergence of alignments within more indeterminate movements.

This framed orientation to fixed points crucially encourages a *reduction of movement to linear segments*. These segments emerge together with the codifications that segmentation enables, first in rigid behavioral patterns and architectures (the static algorithms[11] of sovereign and disciplinary societies[12]) and now in flexible dynamic algorithmic networks (of control and hypercontrol societies[13]). The epochal domination of these reductive movement organizations I call the Algoricene, or Age of Algorithms.[14]

This book will challenge major assumptions about movement coming from mechanism and will claim the *irreducibility of movement to immobility or fixed posture, to displacement or trajectory in a space, to measurement, to steps and their sequences (algorithms),*

8 Human–nonhuman, nature–culture, subject–object, mind–body, man–woman, heterosexual–homosexual, abled–disabled, white–racialized, rich–poor, master–slave, active–passive, good–evil, and order–chaos, amongst others.

9 Within the scope of poststructuralist philosophy and posthumanistic, post- or decolonial, queer, or neurodiversity movements and theories, amongst other struggles toward greater freedom.

10 Metaformativity will be discussed later in depth. Let us advance here that it is about processes of emergence and becoming that exceed those described by discursive performativity as reiteration or displacement of existing forms. Indeed, it accounts for the way in which discursive structures and other dominant human modes of relation emerge from less defined and less dominant modes by means of alignments in movement and perception that narrow down the plasticity and indeterminacy in moving bodies and their fluctuating, proprioceptive, and multisensory matrix.

11 Algorithm is meant here as a sequence of movements that can be codified.

12 In reference to Michel Foucault's account of sovereign societies (ancient societies distributing life and death) and disciplinary societies (from the seventeenth century, optimizing the performance of life in relation to industrial society). See Foucault (1995).

13 This is in reference to Gilles Deleuze's (1992) account of societies of control, that is, the flexible and dynamic feedback systems able to capitalize on novelty. I propose that we are now entering a hypercontrol society ruled by autonomous algorithms.

14 I have developed the theory of the Algoricene, or Age of Algorithms, in several essays and research projects. See Del Val (2017a; 2017b; 2018a; 2018b).

*and to repetition,* while questioning the possibility and desirability of fully controlling movement, of making it dependent on an individual desire oriented toward goals, or of subjecting it to fully conscious, rational awareness.

Though every empire, state, or large-scale stable organization perhaps expresses different modes of reduction of movement and perception, it may be argued that their most successful, accomplished, and dominant expression evolves, perhaps nonlinearly, along Western rationalism, at least since Greece, through the Renaissance, the Enlightenment, mechanism, and industrialization, and up to its exponential implosion in global digital culture.[15] In this book, I focus on some aspects of the Western genealogy of technologies, ontologies, and epistemologies of rationalization that have become the most pervasive and successful systemic form of domination on Earth. Since these have also been presented as the most successful system of equality, liberation, and freedom, I will challenge this assumption and propose to explore alternatives.

I don't assume that these alignments were created by a subject. The subject came along with them. They are an expression of movement within a broader spectrum. Other empires and systems of domination will express other modes of movement reduction.

### 1.1.1 The Algoricene, or Age of Algorithms: Dominion as Reduction

This book exposes the conflict between the will to vary (as capacity to create) and the will to dominate (as capacity to reduce).

Since Parmenides, in his book *The Way of Truth* (485 BCE), affirmed truth and being as absolute fixities, domination has been a fight against the world's movement, openness, and variation. All-encompassing calculation based on fixed points of vision reduces the complexity and indeterminacy of movement and multisensory integration by continually orienting it. This reductive expression of movement grounds the currently dominant and rationalist technologies, ontologies, and epistemologies on which the autonomous subject is founded. It is paradoxical, to say the least, that such a reductionist model based on sensory and kinaesthetic atrophy — and thus also on cognitive and affective atrophy — has been privileged as superior.

This process of reduction culminates in a *society of pure quantification* in which movement and behavior are considered through the mechanistic, measurable trajectory of a given body in a predefined spacetime. Cybernetics still builds upon this paradigm in trying to anticipate the minimal deviations from any complex curvilinear trajectory and correct them following predictions and goals. Nowadays, fixed points of vision evolve as mobile networks of sensors and interfaces. Abstract mechanical space evolves into a hyperalgorithmic space, where Big Data systems create emergent correlations as dynamic patterns that in turn reorient behaviors and perceptions. In smartphone society, points of vision, sensing, and measurement are ubiquitous and mobile, yet we are still fixed in relation to the frame that captures,

15 I suggest that under every imperial social organization lies a different type of geometric, or more generally reductive, organization of movement. For instance, in China, grids and engraving existed at the same time or even before they did in Europe. But they hadn't then and there become the source of a full-scale and all-encompassing system of rationalization, as they would in Europe where it grounded arguably the most successful and pervasive system of domination in history, while also paradoxically becoming associated to the history of democracy.

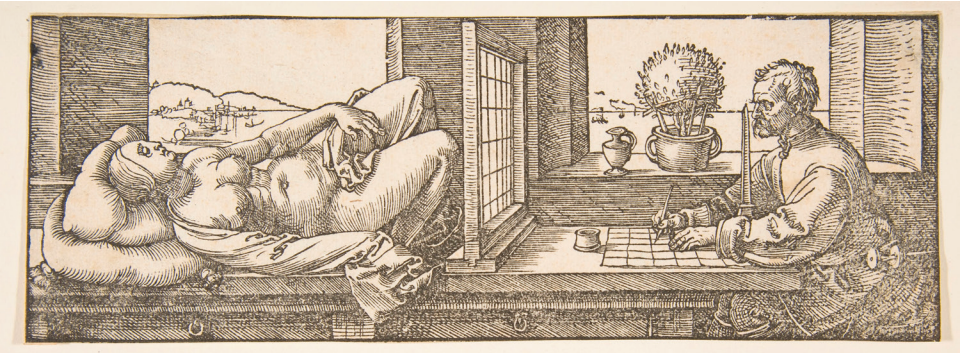


*Fig. 1.* Engraving by Albrecht Dürer showing a perspective machine, circa 1525. Metropolitan Museum of Art. Public Domain.

measures, and redirects our attention. The interface is the affordance that orients both our movement and perception and is also the sensor or "eye" measuring us. We align our movements with it, in a sort of reversal of the fixed point of vision, now invisibly situated to the other side of the screen.

Underlying and sustaining all dualisms, linearities, and totalities is a *perceptual infrastructure that orients movement in particular ways.* The split between observer and observed enacted by perspective grounds the possibility to endlessly split, map, and categorize that which has been split from the observer by fixing vision at a distance; to formalize and quantify it; and to organize it according to mathematical and logical rules and steps, which are ultimately algorithms.

Many will argue that these systems enable connectivity, mobility, and freedom. I will challenge these assumptions and propose alternative ways of thinking the freedom of movement and relation. Against the claim that such systems, rules, or categorizations are necessary for a socially viable life, I will expose them as evolutive problems and failures that need to be overcome, while claiming that our bodies can unfold a much broader spectrum of more diffuse and self-organizing movements, which lay dormant in our molecular memory and sustain our liveliness.

### 1.1.2 Field Theory of Movement: Perception beyond Radical Embodied Cognition

I expand on some aspects of radically embodied cognitive science in claiming that any process we may call cognitive (including the so-called mind and consciousness) is not only embodied — embedded in a body moving in relation to an environment and thus always already extended, distributed, and enactive as relative to movement — but emergent from movement relations (down to quantum fluctuations) and subject to plastic reconfiguration. My claim that how we move is how we think, feel, and relate is not a deterministic one, but implies the capacity to transform and open up — ontohack — all aspects of any reality too reductive *toward a more plastic and less determined one.* This will be the ground for my account of freedom and of sustainability.

My radical turn is in relation to the already radical, but not sufficiently so, existing theories of embodied cognition, which is where I place thought or intelligence *in movement itself,* as did the first philosophers, with rational cognition pertaining only to one particular mode of linear and reflexive movement. The world being made

of movement relations, how we move crafts everything, not only ourselves, but the environments we are part of. Since I am concerned with environments that restrain the possibilities of moving to rigid or controlled schemas, the crucial question I address is how to open up our ways of moving to ongoing reconfiguration, and how *to sustain this openness*.

For this, the first thing that needs to be dismantled is the idea that movement is just the linear or curvilinear displacement of a body in a given space. I will expose the genealogy of this mechanistic way of thinking movement, which has been criticized by Henri Bergson as falsifying, because it identifies movement with immobile points. Movement will instead be defined as a *field* and associated to a new account of perception grounded on proprioception, that is, the internal, muscular–articular sense by which the body senses its own motion. Movement freedom[16] is thus not only in being able to move in a given space, but in reconfiguring one's own proprioceptive field, that is, the endless combinatory of our 360 joints.[17] This reconfiguration always happens in transformative relation to other proprioceptive fields composing our environments or worlds: other human and nonhuman animals; bacterial, geological, or atmospheric fields; and technical and architectural fields. The latter also sense, or propriocept, through the geometric ratios composing them in long timespans, in terms of how the people designing them or living in them sense through those ratios. Proprioception will be enlarged as a trope for thinking *how fields of any kind hold together in variation by sensing the fluctuating force distributions in themselves and in relation to each other.*

A Radical Movement Philosophy (RMP) states that everything is ultimately made of movement and, more importantly, that movement composes endlessly varied kinds of movement fields, with some fields more aligned than others. RMP is a *radical field theory* because it doesn't oppose the field to anything beyond it. Movement fields forth, and this accounts for everything, up to the sharpest alignments. There is ultimately no reason why the more aligned fields should exist. They just happen, along less rigid, more plastic expressions of movement in the naturecultures with which they are in conflict. Aligned or reductive fields are intrinsically associated with domination, but I argue that they are not essential. We can, however, use them as trampolines into a new evolutive threshold of greater sustained plasticity.

Movement underlies everything. Indeed, it *is* everything. This book will propose a new ontopolitics and economy of movement, one pressingly needed in the times after the Covid-19 pandemic, when economies of confinement, distancing, immobility, and control may be crossing a dystopian threshold.

The fixed point of vision of perspective allows for the measurement and reorientation of movements precisely due to the reduction of movement itself. It is essentially narrowing. Reduction of movement has been defended as a crucial component of a liveable life, as organisms supposedly need to select from the endless quantitative flow of the world in order to live, in their quest to make order out of chaos. I challenge this idea by proposing that the movements that compose the world are not a quantitative infinity of mechanical events from which to select by reducing, but an

16 Lucretius was visionary in identifying the *clinamen* as source of freedom, as "the factor that saves the mind itself from being governed in all its actions by an internal necessity" (1969, 41–42, vv. 216–92).

17 The number of 360 joints is not fixed because it depends on several considerations, and joints are complex. Not all of the 360 are movable, and they happen between a total of 206 bones since some joints connect many bones at the same time. We have more joints than bones.

issue of qualitatively diverse *types* of movement fields constantly transforming their compositions and rhythms in relation to one another. Every field is already a *type* of movement and of perception or proprioception.[18]

### 1.1.3 Proprioception and Plastic Evolution

Proprioception is itself a sense modality, composed of a variety of proprioceptors (mechanoreceptors and mechanotransducers) sensing changes in muscles, tendons, and joints across all tissues, often in a decentralized manner, along reflex paths of neural networks. These receptors sense the body's own motion and are thus directly linked to *how we move*. They operate mostly in nonconscious spectrums. Before the term "proprioception" and "proprioceptive field" was proposed in 1906 by Charles Scott Sherrington, it was often referred to as a "muscular sense."

It is in proprioception that all exteroceptive and interoceptive sensing modalities (such as vision, hearing, touch, and so forth) integrate, always in changing ways, with the body's movement. What I see makes sense because I move in relation to it in some way or other. This is the ground of agency, knowledge, or memory. More importantly, no sense operates separately. *Every experience is a unique and changing mode of multisensory integration, of multiple sensations integrating in and with the body's movement.* Furthermore, proprioception mostly happens in a decentralized, self-organizing manner through multiple rearrangements of the distributions of force, tension, and torsion of the field, itself a microcosmos.

The proprioceptive field is thus the dynamic matrix where all action and perception become one, where *sensing the world is sensing oneself, in motion and transformation.* This, in itself, completely undoes the subject–object split.

Sherrington's 1906 study outlined much of this, but its revolutionary implications have been ignored, underestimated, or misinterpreted. We have thus stayed muddled in the wrong ontologies, which presume a mysterious disembodied entity commanding action. How many acrobatics have been performed in trying to define this chimera, instead of embracing the self-organizing plasticity that we are!

Proprioception, as the sense of internal movement of the body, thus allows us to develop a radical alternative and reversal of the fixed point of vision and its associated onto-epistemologies, technologies, and politics. I propose to reconceptualize perception through proprioception, here redefined as the swarm-like field-perception underlying any other perceptual mode. This unfolds as a (meta)ontology and epistemology, ethics and ecology, aesthetics, and politics, but it also hints at a radical reconceptualization of technology and science, economy and work, language and communication, community and commons, education and health, affect and cognition, desire and sex, space and time, subject and object, social space and organization, kinship and care, architecture and territory, law and rights, and others still.

Proprioception also allows us to consider the body's capacity to move and think as nonlinear and emergent. It is thus the ground for a Body Intelligence (BI), which I place in opposition to the reductive and controlling thrust of Artificial Intelligence (AI). I claim that proprioception exposes our evolutive substrate and memory, being the *archē-sense* from which all other senses come or of which they are extensions, a

18 I elaborate on the theories of perception as selection versus perception as contraction in Book 3 on movement philosophies. On perception as folding in Gottfried Wilhelm Leibniz, therefore as contraction rather than selection, see Munster (2006, 42).

primary evolutionary and cosmological mechanism by which a field (for instance, molecular or bacterial, and later proprioceptive in a strict sense) holds together by maintaining distributions of force in variation.

…

Proprioception is the core matrix, and I propose it here as core to a new ontology, aesthetics, and politics:

— It is a self-moving matrix, source for a new paradigm that reverses the ontologies based on the fixed points of vision of perspective, a matrix of which the brain is just part and not center of control, a self-sensing matrix emerging from billions of years of evolution of self-affecting fluctuating fields and microbial swarms;
— it provides the symbiotic sense of world as part of one's own movement;
— it is the core of the sense of self as moving body. Without proprioception there is no self, nor meaningful world, but it is a symbiotic self in becoming with the world.

The primordial source of the human tragedy, its discontents and its destructive nature, could be boiled down to a strange reduction and atrophy in proprioception among bipeds in the savannah, along the predominance of distant vision, at odds with the way nonhumans are embedded in their proprioception and sustain a rich and less hierarchical multisensory integration with predominance of proximity sensing like smell.

…

Proprioception exposes our radical entanglement with the world. We know the world proprioceptively, and *we know ourselves through moving with the world. Self-sensing and world-sensing are one in proprioception,* always implying movement and change rather than exteriority and fixity. The fundamental dualist categories of the dominant humanist–Cartesian paradigm become radically untenable in light of proprioception. What this offers is not the collapse of subjectivity but rather the possibility of richer ecologies, relations, and worlds.

The subject as a bounded totality seems to be an unsustainable construct. Can we open it up? Many suggestions have been made in this direction, such as Rosi Braidotti's nomadic subject, Teresa de Lauretis's eccentric subject, or Félix Guattari's ecology. Francis Barker (1984) conducts a more daring questioning of the notion of subject altogether. I resonate with this critique and will propose the *metabody* as a more ecological alternative implying the subject, the body, and its environment and objects, that is, a field conception.

## 1.2 Radical Movement Philosophy

The theory of perception-as-proprioception relates to a new theory of movement, in which movement is no longer understood as displacement in a given geometric or perspectival space, but as itself a *field*. For instance, a "human" body is not a block that displaces but is in itself a fluctuating movement field: a flock of 360 joints whose primordial movement is not so much in its displacement in a space, or even in the displacement of its joints, but in their *relations* — the muscular tensions between

them that shift internally but also in relation to the world and to other proprioceptions. What we call space is always a fluctuating amalgam of multiple proprioceptive fields.

At the bottom of the proprioceptive field lies the bottomless, indeterminate variations of energy density composing the fundamental state of the universe, following quantum field theory. My proprioceptive field is thus an expression or unfolding of quantum fluctuations evolving along 13.8 billion years of nonlinear histories. Neither chicken nor egg, fluctuation always comes first, and all along and after.

According to current physics, *there cannot not be fluctuations*, even in pure vacuum, even before the Big Bang. Universes don't only come from fluctuations, but rather unfold, "tune," and evolve in unpredictable ways *due* to fluctuation.

I theorize fluctuation as intrinsically propelling a movement of ongoing variation due to how differentials of energy density condense within and across differentials, tuning in rhythms, from subatomic oscillations to the gravitational dances of galaxies. How I propose to think of fluctuation is in terms of fields: movement fields, understood as modes of fluctuation, with their primordial mode of sensing, *(an)archē*-proprioception, as principle without origin and hierarchy.

### 1.2.1 The Only Movement Doctrine

Neither being nor nonbeing, that is the question. Fluctuation in variation!

There is only fluctuation, fielding forth in variation.

The open consistency of our bodies and worlds is due to the gradual un-/in-/enfolding of fluctuation. Everything we perceive is an effect of billions of years of evolution of fluctuations. The fundamental fields of physics and subatomic particles are nothing other than particular rhythmic tunings and momentums emerging in the earliest unfolding of this universe as oscillations or frequencies tuning within more indeterminate fluctuations. The entire field of molecular exchanges, including biology, is about increasingly complex tunings of fluctuation's rhythms composing chemical relations. Our nervous system and brain are a late offspring of these. Our techniques and social organizations are mere inflections of this process, no older than the blink of an eye.

Fluctuation doesn't only evolve into endlessly diverse fields, but some of them are also more open than others. In other words, some sustain a balance between consistency and openness, while others, a dominant minority, reduce openness and impose alignments, blocking fluctuation. I thus claim that there is neither pure order nor pure disorder. But excessive order can become a closure that invokes excessive disorder, inciting a bipolar dynamics.

This is the politics of my proposal: that domination is a counterevolutionary movement of reduction, while radical symbiosis and ongoing mutation are the movement of evolution.[19]

The sensorimotor reduction and impoverishment intrinsic to domination affects both the ones dominating and the ones dominated. May this recognition help people who dominate disalign from their atrophied and desensitized bodies, setting them in motion again.

19 As biologist Lynn Margulis suggests in her accounts of symbiogenesis and bacterial sex (Margulis and Sagan 1997).

A universe's evolution is a process of ongoing variation of fluctuations toward increasing diversity. *The highest possible affirmation of a universe and of life is to bring forth as rich and diverse expressions of fluctuation as possible.* This happens when the fields condensing within the primordial movement of quantum fluctuations maintain a dynamic balance between the consistency of the fields emerging and the openness of the fluctuation in which they emerge.

A field is a zone of energy density: a condensation, distribution, and resonance that holds together in variation due to how fluctuations create differentials within and across their own differentials. These differentials create rhythms which define the field's dynamics, and which in turn may transpose or propagate across other fields. This is also, in itself, the primordial mode of perception of fields as *(an)archē*-proprioception, which is self-sensing and sensing the world though one's own changes in distributions of energy density. Fields hold together through this sense of internal fluctuation.

"Intraduction" will be my name for the process in which new fields emerge and acquire consistency as new condensations within fluctuation; as relations between differentials holding together; and as new relations and propagations between preexisting fields. *Intraduction* brings together aspects of Gilbert Simondon's transduction and Karen Barad's intra-action.

Plasticity is the creative capacity of a field to reconfigure with other fields. It is linked to sensitivity as an openness to move with others and the world. Both, together with a *depth of resonance,* which is also *technē* and memory, afford evolution as sustained variation.

The mode of fluctuation of a field is its rhythm. It is irreducibly qualitative–affective, that is, irreducible to the dynamics of any other field and to quantity. It is in transformative relation to other fields. Relation and communication are always a transformation happening between the irreducibly diverse, the emergence of a field and its quality, its affect.

Fields are thus defined by a *degree of openness and vitality* (sensitivity and desire); a *mode of intraduction,* which is also a process of mutation (composition and sex); and a *quality and depth of resonance* (memory and affect), which is also the capacity to keep sensitivity alive, open to new intraductions.

*Will to power of variation* is a driving multiversal force, in which Open Wholes, to use Bergson's term,[20] proliferate. I call this will — this movement of ongoing, mostly minimal variation — the *clinamen,* following the concept from Lucretius that defines the minimal deviation in the movements of atoms affording novelty and freedom in the world. I will also refer to it as *chaos,* which in its ancient etymology is an opening, chiasm, or yawning cave, and, contracting both, *clinaos*. Minimal ongoing variation — *clinamen* or *clinaos* — is the primordial *technē* of nature.

Occasionally, within the movement of variation, closed totalities appear, tendencies to domination-as-reduction. *The only value of domination and its reductive inflections is in the possibility to propel evolution further by overcoming them.*

20 This is through Gilles Deleuze's (1986a) mediation. The expression "Open Wholes" comes up at the start of *Cinema 1,* where Deleuze exposes Bergson's movement theses. Henri Bergson's Creative Evolution emphasizes instead the concept of "the Whole," which is closely related to indivisible duration, and even claims that "Philosophy can only be an effort to dissolve again into the Whole" (1944, 210).

The reduction imposed by millennia of geometric environments and fixed points of vision needs to be overcome with a new, unprecedented sensorimotor plasticity that brings back and takes further the movement of variation. This requires the development of movement improvisation technologies that unfold our Body Intelligence (BI), that is, the power of variation of bodies as proprioceptive fields.

### 1.2.2 The Consistency of the Open: Against the Order–Chaos Dualism

Consistency and openness are never absolute terms. They always dance together, to some extent. In the world, there is nothing like absolute consistency as a sort of pure order, just like there is no absolute indeterminacy or openness as a sort of pure randomness or noise. These extremes are the phantoms of Platonism, indeed, very powerful fictions instilling the fear of entropy and disorderly chaos in order to justify hard alignments. Both order and form, disorder and noise are mathematical abstractions, nothing more. They are not even limit tendencies. The tendency is more of a balance between the intrinsic openness of fluctuation, as the metaontological primary of the world, and the way differentials and variations within fluctuations tend to field forth, holding together while sustaining openness as microcosms of variations unfold within any differential.

Dissipation and disorder are only the effect of excessively orderly reductions that do not allow fluctuations to unfold. Industrial society's economy of closed systems has enforced this paradox of dissipation. But the universe is not a closed totality. Energy intraducts continually, in variation, if we let fluctuations unfold. But I also oppose the idea of a "lazy" universe of minimal action. Instead, I propose the idea of a creative universe in ongoing minimal variation. *The only certainty is that something will always fluctuate.*

This tendency to variation is signalled by my use of the prefix *micro-*. Microsexes, microaffects, microspacetimes, or microdesires are modes of reciprocal composition, affection, and orientation that sustain openness, variation, and fluctuation; composing fields but never imposing themselves. The micro- constitutes the broader field of consistent openness in chaosmic evolution within which occasional reductive folds happen, excessively consistent wholes that impose themselves as dominant totalities. In the Algoricene, we see first the emergence of rigid macroalignments; then, more recently, their double-folding into more dynamic and flexible hyperalignments.

Due to how fluctuations unfold, variation is also diversification and complexification. Entropy, understood as multiplication of internal states and as transformation within, also speaks of this thrust in which energy doesn't merely dissipate, but transduces into new consistencies with an increasing variation. *Nature is a fluctuating economy of energy.*

### 1.2.3 Fluctuations Un-/In-/Enfolding

One of the most extreme expressions of this double or triple process of unfolding and infolding creating the enfolding of a universe can be seen in the theories of cosmic inflation, and in Big Bang cosmology. Fluctuations during inflation became the uneven distribution of matter in the largest scales of the known universe — composing the foamy texture of galaxy filaments, each one containing millions of galaxies — while frequencies and oscillations of subatomic particles (of energy, matter,

and forces) tuned (or infolded), stabilizing as energy gradients were crossed. It is the simultaneity of this infolding and unfolding which constitutes the enfolding of a universe.

*Neither being nor nonbeing,* fluctuations seem to be the ontological primary of this or any universe. Fluctuations are the most radical undoing of a metaphysics of being. But they are not a mere substrate for forms to emerge. They themselves express a universe as rhythmic field.

The peculiar dynamics of a field are its *thought*. Some dynamics sustain openness better than others, enabling a movement of variation. This capacity to sustain plasticity, variation, and thus evolution and life, is the *intelligence* of fields.

This is again not to say that the world is divided into "reductive" and "open" as yet another binary dichotomy. I propose plasticity as the intrinsic quality of movement fields and narrowing as an *occasional* tendency and expression, a diminishing of plasticity along many degrees of a spectrum.

Degree is here is not to be understood as an absolute quantity but as relative to a field's capacity to vary. Indeed, when quantity, or the possibility to quantify, appears, it is a symptom of a diminishing of plasticity where relations get partially fixed. Our geometric and gridded culture is ultimately only one of the endless self-organizing expressions of movement itself, but one that reduces the very self-organizing openness from which it comes and stands in violent tension with the less reductive fields which it tries to dominate. *The chaosmic*[21] *field is ontogenetically primary, and the mechanisms of domination separate themselves from it and turn back against it. They are limitative outgrowths of it.*[22]

It will be crucial to develop an account of consistency; of how a field holds together, without entailing any structural closure or fixity. A field's "identity" is its dynamics; its "being" is its becoming; its "essence" is its plasticity. Our essence and the world's (or our brain's, for that matter) is plasticity itself — not identity and fixity!

Of course, movement is not only about subtlety. The world has all sorts of violent disruptive events going on at the cosmic, biophysical, or sociotechnical level. But through cultivating subtle ongoing variation, we can hold together an open field through which to creatively take in the violent disruptions to which we are often subjected, and within our own internal dynamics, tornadoes of creative force can rise. The question is ultimately not of subtlety as something small, but as an emergent, self-organizing dynamics, cultivated through the art of the *clinamen,* the minimal ongoing variation, as primary technology of nature.[23]

21 My take on the word *chaosmos* surely takes influence from Félix Guattari's *Chaosmosis* (1995) but is also grounded on my particular claim for the ancient etymology of the word *chaos* as "opening." See Book 3.

22 This is Brian Massumi's own phrasing of my proposal from our email exchanges.

23 I define technology as memory of movements, affording a sustained process of variation. It is a knowledge in movement itself, in constant transformation. *Technē* is in and of movement, across all strata of naturecultures. The higher the plasticity sustained in a field, the higher the *technē* and intelligence. This inverts usual accounts of technology as capacity to reduce and dominate. Every *epistēmē* is also implicitly a *technē,* an embodied and kinetic knowledge. I thus challenge the distinction between *technē* and *epistēmē* as two distinct modes of knowledge, in which *technē* is practical and *epistēmē* relative to invariant, or dominant, truths.

### 1.2.4 Toward a Radical Field Theory

The idea of movement as a line only offers one way of thinking and relating along trajectories (causalities), fixities (points), segments (lines between points), dichotomies (splits), and bounded totalities (frames, circles, and spheres).

But movement isn't the displacement of something in a space. Movement is the ongoing change of internal dynamics composing a field and relating to other fields. This field is not to be confused with a measurable space, which requires the partial fixing of relations. Movement is not what happens in the field, but the indeterminable field itself as defined by *sustained but varying changes* of energy density differentials and of relations between the differentials. Consider a flock as a field. The movement of the flock, as I propose to think it, will not be the ensemble of the birds' individual trajectories. It will be in the fluctuating *changes of dynamics in the relations between them* that conform the dynamism of the flock as field, indeed, the elastic–plastic changes of speed, proximity, and internal orientation *in-between* the birds.

The flock is itself a proprioceptive field, and so is each single bird, down to quantum fluctuations within the larger field of the biosphere and the universe. Likewise, if I move an arm, this is part of the movement of my proprioceptive field, which is always fluctuating simultaneously in many different ways. When I walk, my walking is a change of internal relations within a larger flock (a city, an architecture, a society). A body is a field with endless possibilities of internal change, variation, or fluctuation. In turn, a body displacing, as its field fluctuates, can also be seen as a change in a larger fluctuating field (city, ecosystem, biosphere, etc.).

Movement-as-field recuperates the ancient Greek etymology of *kinēsis* as meaning both *movement* and *change*. Every change in a field is movement, and every movement is a change or transformation in the field.

Every field has unique and varying dynamics, modes of fluctuation–oscillation, plastic rhythms. *Rhythm is not a pattern but a mode of fluctuation.* The peculiar types of changes unfolding the field are the peculiar types of movements defining that field in terms of speeds, densities–proximities, and internal orientations between nodes or energy density zones. These zones, or nodes, can be birds in the flock, cells and bacteria in the bird, molecules in the cell or bacteria, atoms in the molecule, subatomic string vibrations in the atom, but these can also be in architectures and machines in the city, microchips, data centers, code, and other infrastructures in planetary-scale computation systems, and so forth. Each of these will have peculiar internal dynamics composing the field as a type or mode of movement, but some will be more plastic, emergent, or self-organizing than others. Wherever we see something that looks like a fixed structure, it is in fact a movement field that has become too rigidly aligned, particularly in relation to our own perception. A frozen swarm.

### 1.2.5 Why One Cannot Know What a Body Can Do

As we said previously, a body is a field with endless possibilities for internal change, variation, or fluctuation. In turn, a body displacing, as its field fluctuates, can also be seen as a change in a larger fluctuating field (city, ecosystem, biosphere, etc.).

Our endless combinatory of joints implies that there is no limited set of possible behaviors linked to the shape of a body, since there is ultimately no fixed shape to a proprioceptive field, and movement can always evolve in new qualitative variations. One way of imagining this is that I can always find new combinations of my

joints. But this diversity of "combinations" is never just quantitative. It is irreducible to quantification because it implies both a quality and ongoing intrinsic fluctuation — its ontological indeterminacy. My flock of joints is always sustaining multiple tensional states at the same time. Its actuality is its openness.

When a body appears to be limited by a "shape" that determines its movements or behaviors, this means that its capacity to vary has been minimized by a context that imposes alignments.

Determinism is thus the effect of sustained relations in a field (a social one, for instance) that forecloses its possibilities of internal change, indeterminacy, emergence, and self-organization. But no system or context can fully close upon itself and cut itself off from the world's intrinsic fluctuations.

While some may argue that for a social body to exist there must be stable alignments that erase fluctuation, I claim instead that any sustainable and life-fostering field, including any society, must be able to let fluctuations unfold through it, furthering creative variations. Paradoxically, imposing "orderly" linear alignments usually entails highly destabilizing and disruptive effects on the subtle dynamic equilibrium of ecosystems built as they are upon billions of years of nonlinear evolutions. Stable order conceals a violent, disruptive business.

### 1.2.6 Metabodies as Swarming Ecologies

Fields are neither abstract nor clearly bounded. Both corporeal and amorphous, fields resist reduction and stasis in form. The concept of the *metabody* will be one way of naming fields, whether bacterial colony, galaxy, atmospheric phenomenon, swarm or flock, organism, society, city, or technical system.

Every movement is corporeal since it *fields,* both in the sense of fielding forth or unfolding a field and of being itself a field and part of multiple fields. Therefore, there can be no incorporeal term in Radical Movement Philosophy. *Meta-* implies in-between, relationality, but also moving beyond, exceeding, incipient, mutating. Metabodies are ecologies of diverse consistency and openness: Open Wholes.

If ecosystems (social, natural, technical, or other) are fields of sustained movement relations, ecologies are both the fields and the critical and creative practices and processes that take care of how these fields emerge.

The concept of the metabody enables us to rethink not only ecosystems and bodies, but also subjectivity as a field of movement relations. Thinking of myself as a metabody implies thinking the movement relations within which I am a node of consistency, some of them planetary-scale and evolutionary, spanning over eons, others technical and social, atmospheric, viral, normative, affective, but also of the irreducible peculiarities of movement and rhythm composing my character and its openness or closures, such as my plastic brain synapses and my proprioceptive and molecular fluctuations.

The swarm or flock, given its plasticity and capacity to change, both internally and in relation to its surroundings, is a trope for addressing the variation of movement fields, that is, their diversity, consistency, and openness. We think of flocks or swarms in terms of rhythms and speeds, changes of internal orientations and changes in contacts–proximities of the zones of consistency (energy density) com-

posing fields (the birds in the flock, the insects in the swarm, the architectures of a social body, the components of a technical system, etc.).[24]

The threefold trope of rhythm, orientation, and contact echoes a pre-Socratic theory of motion that I claim as one of the most accomplished ancient attempts toward a physics of transformation: Democritus's dynamic and relational account of the atom, which was misread largely due to Aristotle's interpretation of the atom in terms of form, position, and order, and to his influential *Physics*.

Throughout, my alliance with pre-Socratic thought and its later variations in Epicurus and Lucretius is strategic. It exposes alternative ways of thinking than those of the dominant tradition that were in the works at the origins of philosophy, outlining a potential field theory, a physics of transformation, and an ontology of becoming.[25]

### 1.2.7 Plastic Realism

This book is about creating and sustaining richer, more plastic, and more plural realities than the ones predominating in globalized human cultures today by moving in more subtle and varied ways than we usually would. My proposal thus argues for a plastic realism. It inquires how certain rigid environments have become dominant throughout millennia, reducing plasticity, and proposes in turn certain concepts and practices for enacting more plastic perceptual and relational worlds.

Plasticity, as the capacity for creation, dissolution, resistance, and reconfiguration, is the prerequisite of creative evolution.[26] This implies the capacity for sustaining behavioral indeterminacy in a fluctuating world. My account of plasticity, in contrast with Catherine Malabou's,[27] is not plasticity of form but beyond form, since form is related to perspective, while proprioception, our internal sense of movement, is significantly formless. This allows us to think of the *consistency of the formless.*

Plasticity is about increased *sensitivity and sensibility,* for an ongoing recomposition *with* the world.

We must seek modes of knowledge and science that widen our movement plasticity, rather than narrowing and fixing it down. The question is not "how does something work," for instance the brain, but "why is it working this way in this situation, and how can one allow it to vary." It's a question of understanding how alignments or closures emerge within fluctuation, when excessive consistency takes over openness. The reverse can also be the case when excessive openness proliferates without consistency.

Fluctuation as variation as diversification is evolution. Variation is diversification and diversity and multiplicity are always a *movement* of variation.

24 Note that my concept of field doesn't strictly coincide with the four fundamental fields of physics, even though there are resonances. In any case, a physical field is generally a quantity defined by a tensor with a value for every point in space. In Book 4, I will propose to challenge this approach. The world is made of endless fields, irreducible to points in space.

25 Understanding these proposals requires ontologically cleansing them from Aristotelianism and mechanism. They also show the tension with the dominant story, founded in Greece at the time by Parmenides, Plato, and Aristotle. This is linked to the fact that no book from the alternative story has come to us except Lucretius's, one of the last copies of which was found almost by chance in 1417 in a German convent after more than a thousand years of oblivion.

26 Throughout, I resonate and try to take further some of Bergson's (1944) theories in *Creative Evolution,* in particular in relation to movement and perception.

27 See Malabou (2008, 12); Hayles (2012, 12).

Cultures are expressions of nature's creative motion, though sometimes expressing alignments that can diminish the very creative motion of life and evolution from which they stem.

Our evolutionary challenge is to exceed any reductive inflection that diminishes the movement of variation. Hopefully, the tension of millennia-old alignments can lead us to movements of unprecedented plasticity. Or, in more Nietzschean terms: let the tension in our bow, accumulated through millennia of alignments, shoot the arrow toward unimaginable futures.

### 1.2.8 Proprioceptive Atrophy Is Disability

Reduction equals domination. Domination is the history of a diminishing of plasticity, that is, when movement gets imposed by some and assumed by others, instead of coemerging. The grid, a hazardous evolutionary expression, has increasingly externalized itself, composing an entire world of gridded relations.[28] Algorithms are the ultimate paradigm of reduction of movement to segments that can be endlessly (re)codified within highly gridded architectures — from textiles and looms to counting and writing, agriculture and cities, architecture and perspective, frames and theaters, cameras and screens, pixels and microchips. It's as if some gridded brain connections had externalized themselves over millennia, composing a planetary ecology that wants to conquer the entire universe.[29]

Algorithms and grids imply the reduction of movement to quantification, eliminating from it the indeterminacy that I will claim as the very core of movement. Quantification only captures those aspects of a body–movement that can become aligned with measurement apparatuses that fix. When these apparatuses become dominant, the behavior of bodies gets predominantly reduced to their alignments with these apparatuses, imposing a radical reduction of potential and capacity to vary. Control is based on impoverishment.

A culture that continually enforces orientations and has only a negative sense of getting lost, is perhaps one that has lost all sense of wonder and of movement, as Rebecca Solnit (2006) suggests.

Narrowness of movement and perception is narrowness of cognitive–affective richness. We have created a seemingly global connectivity at the expense of narrowing down our experience. This is not sustainable. We need to restore balance. Proprioceptive atrophy is the pathology, the real disability, of our culture.

Movement remains irreducible if we sustain and expand its swarming power. In times of Artificial Intelligence, I propose to mobilize Body Intelligence as that swarming power. In times of a disruptive–conservative AI revolution, I propose a more creative and less disruptive BI r/evolution. Proprioception is the field from which to launch such a r/evolution.

A radical movement freedom lies at the core of our most subtle variations of proprioception, in the fluctuating, consistent but open movement of our tissues. *The more you control, the less freedom you have.* The more you impose a will to orient and reorient movement in predictable patterns, the less you can unfold the creative potentials of moving with others in emergent configurations. At the depths of our motion capacities lies a swarming power, a pleasure and joy in continually expand-

28 For a full genealogy of the grid, see Reynolds (2012).

29 Reynolds suggests this potential extrusion of gridded brain structures to a planetary ecology.

ing into new configurations, *n*-figurations, compositions: a joy of reciprocal mutation as never-ending growth.

## 1.3 Proprioception Regained

### 1.3.1 Metabody Techniques

How to regain proprioception, not only returning to it the rich spectrum that it perhaps had in the past, but opening it up to an infinite horizon of reinvention, while resisting further reduction?

Let me clarify here that what I claim throughout this book is not merely an issue of moving more. This would leave certain bodies and people with small movement spectrums out of the equation. What I call for are the most subtle variations in movement, proprioception, and multisensory integration, available to every body, including nonhuman and inorganic bodies, no matter how quantitatively little one moves. In avoiding an ableist bias it is also an issue of acknowledging the pluralities of modes and spectrums in movement, the microcosms of movement that may be associated to different neurodiversities (considering the world as intrinsically neurodiverse) and their potential variations.

At stake is the enaction of bodies that no longer look at each other from fixed points of vision, but who *propriocept* each other in the reciprocal and emergent reconfiguration of their tissues and senses, in their most subtle variation: sensitive, emergent, resilient to alignments, and resisting domination. This is the joy of microdancing, of feeling muscles in always new ways, a plastic sense of self that continually renews its sense of world and its capacity to move.

Letting movement unfold in sustained variation, in the dance of consistency and openness, while resisting reductive alignments, requires the ongoing elaboration of movement practices: *metabody techniques.*

Metabody techniques work against alignments as reductions, but they also allow for better, more critical, and creative alignments when the time comes. These techniques don't propose to bring into conscious awareness or mindfulness the swarming capacity of the body. Rather, they propose to open experience up to a much wider spectrum in excess of reductive consciousness, though this awareness will be used residually to identify the alignments from which to deviate. Bodyfulness,[30] not mindfulness!

Metabody techniques currently include:

— disalignments,[31] which are micromovement techniques with focus on proprioception and subtle ongoing mutation;
— flexinamics,[32] which are flexible dynamic structures that act as body extensions or wearable architectures, proposing an emergent space ontology based on proprioception;

30 Christine Caldwell (2014, 80) has elaborated the concept and practice of bodyfulness "in order to centralize the often-marginalized voice of the body in therapeutic, empirical, sociocultural, and contemplative practices" and in place of the poorly defined and misleading term "mindfulness." She denounces the somatophobia and bodylessness of the dominant tradition.

31 "Disalignments," *Metabody,* https://www.metabody.eu/disalignments.

32 "Flexinamics," *Metabody,* https://www.metabody.eu/flexinamics.

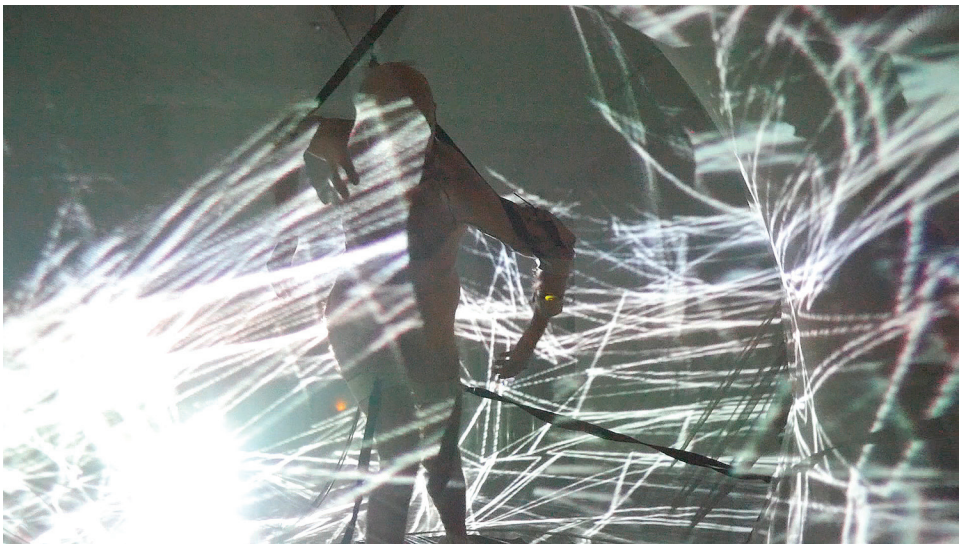


*Fig. 2.* Metatopia/Amorphogenesis metaformance by Jaime del Val in Buenos Aires, 2016.

— microsexes,[33] which are part of an antiperspectival machine where microcameras on the skin give the body a new amorphous perception of itself as postanatomical, amorphous, and composed of infinite and indefinite emergent sexes;
— amorphogenesis,[34] where computation and gaming culture is subverted so as to enhance proprioceptive indeterminacy and richness, through an interactive system involving sensors on the body, amorphous digital architectures, and spatialized sound.

These practices have evolved since 2001 within my artistic work as *metaformance*[35] techniques (fig. 2), that is, processes of perceptual transformation that deeply involve the audience, avoiding placing them as mere spectators. They converge in the Metatopia environments[36] as part of the Metabody project. Half performances, half installations, sometimes intimate one-on-one encounters, often nomadic and choral, in open spaces, like an alien revival of the Dionysian chorus.[37] They are not merely artistic projects but life *technē*s. They might also be therapy, that is, an ontological therapy, for opening up excessively narrow movements–perceptions–thoughts.

Disalignments are anti-choreographic improvisational techniques that unleash a body irreducible to patterns, unrepeatable, and sustaining behavioral openness.

33 "Microsexes/Microdances — Metaformance," *Metabody*, https://www.metabody.eu/microsexes.
34 "Amorphogenesis — Metagaming," *Metabody*, https://www.metabody.eu/amorphogenesis.
35 Metaformance is a neologism put forward by Claudia Giannetti (1997) since 1994 to describe the characteristics proper to the interface as predominant trope in media culture, foregrounding relationality, indeterminacy, feedback, or recursivity, a collapse or redefinition of traditional splits between observer, work, author, and process, and the absence of an external viewer. I retheorize this as an aesthetics focusing on the infrastructure of perception, rather than its content, and as the possibility to bring about more plastic perceptions, where multisensory integration and reconfigurations of the proprioceptive field are more emergent and open.
36 "Metatopia Studio of Metaformative Architectures and Environments," *Metabody*, https://www.metabody.eu/metatopia.
37 The ecstatic and nomadic group of dancing and singing bodies from which Greek tragedy arose. It was linked to the Dionysian Mysteries, a religion of the oppressed and of reunification with nature.

They are about unfolding the infinite combinatory of our 360 joints and taking this unfolding into new thresholds of plasticity.

The cue is always only the minutest variation, a *clinamen* or *clinaos*. Always only the minutest deviation from every previous knowledge, "pattern," or alignment that the body previously had, adding onto it a capacity for variation, a plastic memory, and a deep sense of proprioceptive entanglement with the world, that is, a sensitivity for cosensing and becoming with others.

These kinds of practices may be cornerstones for a new kind of planetary convivialism, one not grounded on the multiplications of controlled splits, but on the sustained yet open entanglement of bodies emerging from proprioceptive relations.

### 1.3.2 BI, Co-sensing, Becomings: Disalignments and the Proprioceptive Swarms

These practices are related to an ethics of *cosensing*,[38] which is mutually sensing or propriocepting oneself, each other, and the world. Such an ethics tries to overcome the limitations of the notion of consent as a property of the human rational adult in the age of autonomous algorithms. This implies claiming a radically symbiotic affectivity, and life as a process of becomings in which trans- or metaspecies symbiosis (as claimed by Lynn Margulis), mestiza hybridity (as claimed by Gloria Anzaldúa), neurodiversity and autistic perception as continually open to the uncategorized (as proposed by Erin Manning), and postqueer microsexuality (where sex is mutation in composition and nonbinary sexual experimentations  neither are limited to, nor privilege, functional, mechanistic, reproductive genital choreographies, or binary relations in perspectival perceptions). This is at the core of the very movement of evolution as variation.

Becoming is the movement of variation of fluctuation enfolding, the process of fields. There is only becoming.

Becoming-with[39] others implies the capacity to recompose oneself creatively without simply submitting to a movement coming from outside or imposing one's movements on others. We need to undo the active–passive binarism.

This vision echoes Margulis's theories[40] of symbiogenesis and bacterial sex in which sex is evolutionarily linked to mutation, and not reproduction, in a radical process of cooperation where micro-organisms inhabit each other, composing new organisms or exchanging genes and reciprocally mutating (bacterial sex). Mutation

38 The notion of cosensing came up in the Beyond Humanism Conference in Poland in 2018, in a conversation with Jonne Hoek.

39 "Becoming-with" (Haraway 2008) is Haraway's reply to Deleuze and Guattari's "becoming" (Deleuze and Guattari 1987). They propose becoming, both as relative deterritorializations (becoming-animal) and as absolute deterritorializations (becoming-molecular, -cosmic, -music), as happening always from the middle, symbiotic as in the orchid and the wasp. Haraway criticizes their denigration of companion species, claiming the relational aspect of becoming and the need to revindicate any vulnerable category. Becoming is in turn one of the oldest and most fundamental philosophical concepts, appearing in all pre-Socratic philosophy, of which Heraclitus presents one of the most radical and best-known doctrines, in which becoming is a never-ending process of emergence whose logos and identity is the ongoing tension between opposites without teleology. The latter is brought in later by Aristotle and dominates Western thinking.

40 Margulis is the major exponent of a theory of serial endosymbiosis, as continued process of symbiosis and symbiogenesis, and of bacterial sexual experimentation, or hypersex — which I call microsex — as core to evolution. See Margulis and Sagan (1986a; 1997).

is an expression of fluctuation. It is thus primordial with regard to preservation and reproduction.

Microsex is not merely genetic mutation, but epigenetic, perceptual, affective, ecosystemic transformation.

At the same time, mine is not a utopian but a *metatopian* proposal, a movement politics of *subtle ongoing variation* that opens grids from within through the subtle blurring and torsion of their alignments.

Becoming mestiza, autistic, microsexual, metaspecies, and molecular swarm are part of multiple disalignments from reductive inflections for unfolding Body Intelligence as a self-organizing plasticity of movement and perception.

Intelligence is the capacity to sustain variation in a balance of consistency and openness. Thought is the particular dynamics of a body–field. Logical and reflexive thought is a dynamic of linear and self-referential fields tending to reduction. But the body as field is capable of endless other dynamics. Every practice — say of dance, painting, playing a musical instrument, and so forth — is a different proprioceptive dynamics and mode of thinking of the body. Body Intelligence points to this broader landscape of modes of thought that are less reductive than linear reason.

Instead of the linear trajectories of logocentrism, now culminating in AI, I propose a BI that thinks along multiplicities of diffuse, nonlinear, swarm-like movements, resonating with Friedrich Nietzsche's "great reason" of the body, of which the logos is just a small part.

*It is the job of artists to open doors.*
— Rebecca Solnit (2006, 5)

### 1.3.3 Ontohacking: A Radical Pluralist (Meta)politics

Reaching maturity in Greece around 2,500 years ago with the philosopher Parmenides, at a time when all other philosophers were trying to understand nature (*physis*) as movement and change (*kinēsis*), ontology is the thinking of reality as something that is in a particular way — a thinking of being (*ontos*) as the fixed truth underlying change.

Hacking is opening something up to other possibilities from within, finding cracks, fissures, or inconsistencies in apparently stable structures.

Ontohacking, then, is about finding holes or openings within an epochal tendency that favors closure and being-as-fixity. It is both an ontological hacking of our realities through movement and perception, and a hacking of the ontological tradition itself that has privileged being and stasis over movement and change. Realities are intrinsically plastic, yet a certain dominant tradition has imposed the idea that there exists a single fixed reality, which needs to be rigidly codified.

An ontohacker is someone who, by moving in new ways, opens realities up to new, more plastic, and plural possibilities, resisting any dominant tendency to fix or impoverish our worlds. The ontohacker is someone who doesn't simply believe that "things are what they are" but one who considers them open to reconfiguration and greater plasticity. Ontohackers feel the movements underlying what look like fixed structures and understand that we and our worlds vary depending on *how* we move. Ontohacking is a politics of freedom and sustainability, an ethics and ecology of care, of creativity in evolution, of life as variation emerging when openness abounds in balance with consistency.

Through the most subtle ongoing variation of movement in our proprioceptive field or swarm, we can ontohack ourselves and anything around us, any technology, norm, object, or relation. The power of ontohacking lies in cultivating the art of the minimal ongoing variation in our proprioceptive fields.

Art, for that matter, is nothing but the restoration of variation in excessively aligned cultures. Artists have the highest possible role in a society, which is to restore and take further the movement of evolution that others block. But this could be everyone's responsability.

Ontohacking relates to a *metaformance* aesthetics. This is an aesthetics that focuses not on the content of a given way of perceiving but on its underlying movements, for the sake of opening them up to greater plasticity — mobilizing plastic, multisensory perceptual ratios that exceed the rigid sensory hierarchies and immobilities of perspectival vision. Metaformance also relates to a critical practice of metaformativity[41] that analyzes how it is that rigid sensory–kinetic organizations arise.

My take is not technophobic. It posits that we need to be more creative in reinventing our technologies, through an *ontological hacking* that pays attention to the subtle choreographies of movement and perception that many technologies silently impose — the *ontoviolence* of subject–object splits, reductions, and alignments.

Ontohacking implies that more plastic yet sustained realities may be mobilized if we pay attention not only to the content of perception but to its infrastructure, which is movement. Ontohacking implies that perception is never fully given, but itself plastic.

I expand upon biomechanist Katy Bowman's call for a movement revolution[42] for "moving our DNA" (changing our epigenetic expressions by moving differently), for mattering as or through movement (movement as ground for our matter and meaning), for moving not only more but better, and, I would add, in more varied, plastic, indeterminate, and unpredictable ways. As she claims, every time we choose a sedentary option, someone else is moving for us, while we develop kinetic–cognitive–affective atrophy. This links back to the history of slave societies. How absurd to enslave others just in order to develop atrophy, impoverish our lives, and favor of a culture of immobility where we become slaves of algorithms!

We need to invert the tendency to associate immobility to higher forms of work which comes from Platonism and slave societies and consider that the higher forms of work are those that afford richer sensorimotor experiences. Cleaning a house and cooking can be much richer experiences than clicking on screens in an office, but for this they must be valued, and not subjected to exploitation. Similarly, we need to question the higher status of education in its association with immobility and claim the superiority of richer movement spectrums.

*We are our movement, neither our brain nor our DNA!*

An ethics and politics of ontohacking and metaformance counteracts reduction by continually reintroducing openness and richness in our movement fields.

41 In Book 5, I elaborate on a metamedia or metaformativity theory that radicalizes Marshall McLuhan's and Harold Innis's theories of communication in relation to perception.

42 My double take on *revolution as evolution* and its links to movement, perception, and the body resonates with, but also diffracts and partly inverts, Thomas Hanna's proposal (1985) from 1970 and his claim for a somatic *evolution–revolution*. I discuss this in the corresponding section on Hanna in Book 7. See also Thomas Nail (2018b) on the need for an upcoming "kinetic revolution" across all domains of knowledge and practice, which I encountered after completion of the manuscript.

Disalignments do not just come from narrowing and dominant alignments, such as those emerging from digital interfaces and fixed points of vision. They are also the power of variation in movement. It neither is about leaving one line to enter another nor is it reduced to moving "between the lines." Rather, it is a *generative power* that opposes all reductive tendencies. It is about blurring the line into a swarming field. It is the universe's *will-to-variation,* implicit in fluctuation. A physical, not metaphysical, drive that follows a *law of fluctuation* where *fluctuation equals variation,* and variation equals diversification, increasing richness and depth: evolution.

…

This implies a necessity to work at multiple, seemingly contradictory registers at the same time. Our complex world demands a radical pluralism.

Ontohacking doesn't oppose other politics but opens the field of possibilities. One can think of at least a *triple field of politics.* A first level is that of claiming new categories to enter the norm, as in both identity politics and in assimilationism. A second level could be thought as that of performative politics of strategic and mobile identifications and disidentifications, as in radical queer movements. But this is not enough with regard to the dynamics of current algorithmic control, which has appropriated much of this dynamism. A third layer is an ontohacking strategy that mobilizes an indeterminate body irreducible to form. Movement traverses the three fields, and one can challenge institutions and legal structures, destabilize linguistic performances, and mobilize nonverbal variations.

At stake is to *look for the movements underlying the structures.* In terms of bodies one can think of a triple field of macro-, micro-, and metapolitics that affirm existing subaltern anatomies, create new anatomies, and mobilize a postanatomical body.

This recalls, with a difference, the potential meaning of "queer" as verb, that is, to queer something rather than to be queer, is to open it up. To what? To indeterminacy.

### 1.3.4 The Body Is Infinite

The body is infinite, not obsolete![43] Not everything is possible, but the possibilities are infinite.[44] I cannot jump to the moon, but the combinatory of my joints is infinite as well as indeterminate, and even more so its qualitative variation. *Infinite to the power of infinite*. This infinity is both an ontological indeterminacy of the body as fluctuating field and its capacity for ongoing variation, for unfolding plasticity.

The variation of the body is not to be sought in quantitative expansion of given forms and capacities, but in qualitative transformation. This exceeds Baruch Spinoza in two ways. While Spinoza claims that a body persists as long as it doesn't change its form, I claim not only that the body can persist while changing form, but also that

43 I play here with Stelarc's famous claim that the "the body is obsolete," ever present in his talks and presentations. I want to clarify that Stelarc is an admired colleague whom I have invited to take part in events on three occasions: Madrid in 2007, Seoul in 2015, and online in 2020. In Seoul, I was happy to have him come out as antitranshumanist in our final discussion. Indeed, his work is neither intentionally philosophical nor intentionally political or even experiential, but poetic. Yet the idea of the body as obsolete can lend itself, and has lent itself, to tragic transhumanist misreadings and can make the delights of body despisers, a tendency that I wish to undo.

44 Rephrasing from Barad, who puts it this way: "Not every intra-action is possible, but the number of possibilities is infinite" (2012, 14).

it is essentially formless, and that its essence is the sustained momentum, neither active nor passive, of fluctuation.

The deepest and most powerful mode of transformation of a body lies in cultivating the *clinamen* as ongoing variation in its field, understood as proprioceptive field of multisensory integration and crossmodal plasticity. The most subtle disalignment from any previous mode and from any previous tendency to narrow down the field is the most powerful and deepest kind of transformation.

Applying a technological implant to "enhance" and "amplify" the body's capacities in quantity will not transform its qualitative field if it doesn't recompose the *mode* of relation and increase its openness or plasticity. If, on one hand, the implant reproduces a perspectival mode of fixing-for-measuring, it will only extend and affirm the dominant reductive paradigm. On the other hand, a tiny subtle disalignment from perspectival vision — by tilting the body's axis, slowing down, or inducing less distance or immobility — will already create a new sense, a new mode of crossmodal integration, a reorganization of how all senses cooperate, always differently, in experience.

The most extreme experimentation in bodies lies not in the most spectacular interventions, but in the subtlest sustained variation in movement–perception. More importantly, this *technē* of the *clinamen* is accessible to everybody. (Literally everyone, not just human and animal, but also cellular, bacterial, molecular, or subatomic, galactic, or multiversal, metacosmic.) This is the primordial technology of nature as movement of variation, and of a universe's essence as will-to-variation.

### 1.3.5 Beyond the Bio–Techno Divide

Hatred of the body is often performed through distinguishing the biological body from the technological body. But the bio–techno distinction is obsolete! There is neither biological body strictly speaking, nor a merely technological one. I propose to think biology as technology along the following lines:

1. technology is always already part of nature. I define technology as any sustained self-organizing dynamics of movement of variation, where what is at stake is to distinguish modes and degrees of plasticity in the dynamics. Cells, bacteria, and viral ecologies are perhaps the highest *technē* of nature, at least in this zone of the universe — far higher than algorithmic technology, as they express a far greater balance of consistency and openness;
2. biology, as a science that attempts to reduce bodies to materially quantifiable entities, is itself a biopolitical technology in disciplinary societies; and
3. technologies (whether algorithmic, mechanical, linguistic, architectural, or other) operate as extensions of proprioception and affect the entire field of the body. *The way classical education or media affect us is no less intrusive or determining than procedures like genetic engineering.* This resonates with the work of Bruno Latour, Donna Haraway, Bernard Stiegler, and André Leroi-Gourhan, amongst others. Ever since we hominids started using tools, we were already technological — techno-epigenetically coevolving with our technologies, that is, as cyborgs. Furthermore, these *technē*s are not essentially distinct from other *technē*s of nature (as in beehives or ant colonies), except by mode and degree of alignments.

To reduce the capacity to alter a body to genetics and physical implants is to ignore that a body is a proprioceptive field, assuming the paradigm given by bio-logical biopolitics. Anatomy, as *biopolitical technology,* imposes a destiny on the body by reducing it to biopolitical maps. At stake is the mobilization of not only new anatomies, but also *postanatomical bodies.*

### 1.3.6 Double-Reverse Move

What I call the double-reverse move implies looking at a dominant narrative from outside and far away, seeing it as a cosmic anomaly. Inhabiting such narratives implies feeling the implicit violence and narrowness of their alignments. For this, one must have first developed the capacity to acknowledge, reposition oneself in, and exit from these alignments. This may take the greater part of a lifetime, though it may finally happen anyway by moving differently, by listening to discomforts and to ruptures, or by following cues that lead to other, less narrow ways of perceiving and moving. *The dominant narrative is made of narrowing ways of moving and perceiving.*

Reversing is opening up the narrow field toward a much broader one. As soon as you quit the alignments, you realize that the possibilities beyond its matrix are endless. The reverse is this infinite, indeterminate landscape that underlies any narrowing matrix.

The double-reverse move implies lastly the undoing of an original reversal, the one that caused this narrowing to emerge and become dominant. This is what Nietzsche called the *original transvaluation,* that is, when reactivity became dominant. But *once you realize the sort of narrow movements that create a domination matrix, it becomes easier to hack it.* It may take a long time to arrive there. Just follow the rabbit persistently and become attentive to anything that doesn't hold together, any crack or fissure, any variation and vibration in how you move.

### 1.3.7 Disclaimer for Those Who Believe One Cannot Go beyond Power Matrixes

There has been a tendency lately in critical theory to consider that power matrixes are inescapable, that all one can do, in the best of scenarios, is to continue to shift the boundary and the terms of domination from within the matrix without any hope of undoing the matrix itself or looking beyond it. The latter move is looked upon with suspicion, or directly dismissed as essentialism, as it seems to imply some underlying substrate beyond the constructed itself.

I claim instead that our primordial, and richest, mode of knowledge and sense-making of ourselves, others, and the world, is not frame-based, sign-based, or perspectival. Rather, it is field-like, fluctuating, and proprioceptive. Language also needs to be reconceptualized in this way, thus accounting for the many instances in which it operates as a transformative field of resonance, always due to proprioception.

My proposal for a radical pluralism implies that since reductive alignments are also expressions of movement, *repositioning oneself within their matrixes of domination is one of the many possible strategies.* But far from the only one.[45]

45 The capacity for ongoing redetermination, also present in Deleuze's account of the virtual and the actual, can certainly be included in my proposal, as a part within the larger field that implies a movement of indetermination of experience. Yet I associate this capacity of redetermination more

The confusion of movement and structure hinders our understanding of the multiple types of movements underlying what looks like a fixed structure. *Collapsing structures can never work, since underlying them are movements which need to be carefully disaligned.*

### 1.3.8 The Meta-Turn: Philosophy as Movement

This book works with the ancient Greek etymology of the prefix *meta-*, which has multiple meanings: (1) in-between (as in *metatarsal*), which is also relationality and immanence, zone of consistency, *mezzo* or plateau; (2) coming after (as in metaphysics), which is also beyond, in excess, exceeding, moving forwards, and thus incipient and emergent, always nascent, in mutation or transformation (as in metamorphosis), undefined and indeterminate, in *movement* across, in-between, going beyond (not just in transition between phases because there are no phases!); (3) underlying or subsuming (as in metalanguage or metadata), which implies a multiplicity and transversality, where one can always find relations to other fields, potentially also as the abstracting, distilling, condensing, and transducting of qualities, implying (self-)reflection upon something, but from a related plane, and thus again multiplicity and transversality, a reflexivity and self-referentiality that is never closed, a recursivity and sustainment. The prefix thus seems the most appropriate for covering the multiple resonances implicit in my conception of movement fields.

I am aware that its major established resonance is with the transcendence associated with the metaphysical tradition. Yet this is precisely the meaning that I set out to reverse. Meta- is all about immanence, relationality, incipience, excess, mutation or variation, multiplicity, and transversality in movement. Meta- implies that immanence is always also excess, that one is always multiple, indivisible, indefinite, open. Radical immanence is never pure immanence!

RMP is not just a philosophy of movement but *philosophy as movement*. My identification of thought and movement goes through my radicalized version of enaction, according to which thought is itself a type of movement or something in movement, that is, the internal dynamics of movement as field. We thus recuperate the way of thinking of the first philosophers, for whom movement, life, soul, or intellect were one and the same thing, and whose stake was to understand the plurality of their expressions and transformations.

This book is ultimately metaphilosophical,[46] because it thinks the perceptual–kinetic conditions which sometimes limit thinking for the sake of opening them up.

## 1.4 The Book as Metabody

Every book is a metabody, a field full of violent alignments and openings, always moving forward, impossible to close. The bodily movements of writing and reading are entangled with myriads of corporealities including the metabodies of languages,

readily to flexible, rather than plastic, ecologies of digital control, perhaps exemplified in the operation of big-data systems.

46 Henri Lefebvre (1991; 2016) proposes a metaphilosophy whose task is to uncover the hidden motifs, biases, and limitations of philosophy. He states that Western philosophy has betrayed, abandoned, and denied the body (1991, 405) and claims for its recovery as part of a metaphilosophical project.

of media, of social bodies, of normativities, of colonialism and exploitation, of planetary-scale computation systems, of libraries and prints, but also of how memory and thought emerge from, move across, and go back to microperceptions (proprioceptions) of the moving body.

Most books don't acknowledge their (meta)bodily status, precisely because they are often part of the somatophobic tradition that this book wants to subvert. But this book is not just a bodily text, essay, or experimentation. It is a metabodily one that considers its field-like nature, a zone of consistency of multiple movement fields, some more aligned than other.

The metabody of this book has emerged gradually throughout nearly twenty years of embodied experimentation across the arts in feedback with domains of critical theory and activist practices, as well as transdisciplinary projects wherein I explore less aligned ways of sensing and moving than the predominant ones, developing practices or techniques for a radical movement freedom. As an independent artist–philosopher–activist as well as technologist–ontohacker and project coordinator, I have not worked from a particular disciplinary background. I have always been moving in-between multiplicities. This book is a provisional weaving of a multicolored, multitextured fabric. It doesn't attempt to reinscribe economies of homogeneous circulation of contagious signifiers, but to enact a more deeply viral thinking in mutation.

*Ontohackers* owes a lot to Nietzsche's *Zarathustra* and its dancing, affirmative, overabundant spirit[47] and to Gilles Deleuze's and Félix Guattari's elaboration on it. It has a formidable precursor in Lucretius's *On the Nature of Things,* and admirable enemies in Plato's *Timaeus* and Aristotle's *Physics*. From my background in queer theory, feminism, and in Foucauldian and deconstructive critique to Brian Massumi's and Manning's philosophies of movement, perception, and power, as well as Bergson, Maurice Merleau-Ponty, and Baruch Spinoza, I have taken pleasure in threading across apparently disparate proposals and elaborating the dissonances.

The metabody of the book has many dreadful aspects too, embedded in the very perspectival frames it seeks to question, in planetary-scale computation systems and proprietary software, in unsustainable hardware, in airplane trips to conferences and professional exchanges, in multiple frames of interfaces, books, and tables. Yet it hopefully gestures beyond them in several ways. This book has also emerged in transit across languages (this version was thought-written in English, while earlier versions were in Spanish), and, more importantly, across nonverbal practices.

It may be argued that this book is an expression of the negative, reactive fold of the Algoricene itself. Indeed, it speaks from within its boundaries, with the will to overcome it. It will also embody some alignments that I cannot see. Is the book yet again expressing a will for encyclopedic thinking and all-encompassing naming? Or

47 Nietzsche, and similarly Lucretius, can be seen a great precursor to many of the ideas of this book that builds upon at least three major Nietzschean themes:
1. the Dionysian, as active, creative, affirmative cosmological and vital force, as affirmation of transformative becoming, as will-to-power-of-variation and as eternal return of difference;
2. the critique of epochal reactive forces that work against the active drive, an original transvaluation that denies becoming, linked to morality, heaviness and mechanism, a critique that is proclaiming the death of God and transcendence in all its forms, including information;
3. and the need to overcome the latter through a new more-than-human sensibility, a claim and reinvention of the neglected body movement, a new mode of dance, and of thinking as movement.

is it reversing Plato's encyclopedic cosmology of the *Timaeus* and its later offspring with a proliferation of the undefinable and ever-changing, a thinking of mutation itself?

A book is a field of resonance of concepts in motion (*metacepts*), a provisional zone of consistency whose will is, hopefully, to mobilize further variations.

Of course, the book is slanted by my own perceptual biases, and by my frequently, though unwillingly, *passing for* human, white, middle class, educated, abled, apparently neurotypical (though proto-autistic), seemingly male and gay (even if struggling for nonbinary queerings), European subject. Hopefully it mobilizes becomings in excess of these categorizations.

The book is also about insistently enacting what Sandy Stone calls the gaze of the vampire (1996, 165), that is to say, the gaze of those, such as queer and neurodiverse people, or anyone occupying border zones, that allows them to see things that people aligned with the norm do not. This is nothing supernatural. It is, strictly speaking, an issue of enactive cognition, where perception becomes formatted according to how we move. This is why there is not one world, but many, and some of us, vampires, move across them all the time. It's a question of mobilizing what Anzaldúa calls mestiza consciousness, and what Manning calls autistic perception. I take this further through Margulis by claiming our radical metaspecies hybridity as bacterial–viral symbionts, whose heritage is our Body Intelligence, embedded in our proprioceptive swarms.

### 1.4.1 The Book's Field

This book is a metabook made of seven books that unfold in embodied and kinetic variation, with five major fields (Books 2 through 6), as well as a contraction (Book 1) and an expansion (Book 7), distributed along three planes of consistency or parts.

It has been evolving since 2012, with a first full version in Spanish from 2016 that will be perhaps published independently, and which became so long and unpublishable that I started a complete rewriting of it in English in 2017. The latter has kept evolving enormously into the current version, a process during which I got a lot of help in revisions from Massumi and the Senselab team. In the process it became again too long and unpublishable, so I have to thank punctum books for taking on the feat of publishing it.

Many of its core concepts and ideas have been persistently evolving, entangled with my artistic practice and my activism at least since my first essay from 2002, and partly advanced in over a hundred previously published essays.[48]

48 Most of them can be accessed here: "Philosophy – Publications – Writings – Conferences," *Metabody*, https://metabody.eu/jaimedelval-publications. For a genealogy of some concepts see also Del Val (2020b).

The concepts of *metabody*, *frontier bodies*, *postqueer*, and *metaformativity*, as critique of representation and its poststructuralist deconstructions in queer theory, have been present and evolving since 2002 (Del Val 2002; 2006a; 2006b), *panchoreographic*, *metaformance*, *postanatomical body*, *microsexes*, *amorphogenesis*, and *common body* since around 2008 (Del Val 2009a; 2009b; 2009c; 2010; 2012), *metaformance*, *metahumanism*, and *movement politics* since 2009 (Del Val and Sorgner 2011; Del Val 2012; 2016), *kinethics* and *ontokinethics* since 2012 (Del Val 2015), *politics of indeterminacy* and *hydrontology* since 2015 (Del Val 2015a), *Radical Movement Philosophy*, *Algoricene*, *ontohacking*, and *philosophy of indeterminacy* or *apeirontology* since 2017 (Del Val 2017a; 2017b; 2018a; 2018b, 2020a, 2021c), *Body Intelligence*, proprioception theory, evolution and cosmology of fluctuation, and *ontoecology* since 2018

The first part and its three books introduce and gradually deepen or unfold the *philosophical field* proposed, each of them like a book within the book.

Book 1, this introduction, serves as an entry to the entire philosophical field, condensing the core ideas and movements and reflecting on the book's field.

Book 2 is a treatise on proprioception. It expands some of the concepts from the introduction, in particular on perception, embodied cognition, plasticity, language, and communication, while unfurling the theory of Body Intelligence and the proprioceptive swarm. The book proposes an ontological redefinition of bodies and perception as well as a new theory of intelligence, cognition, perception, epistemology, and communication. It presents both the ontology and epistemology of proprioception and exposes nearly all the main ideas of the book, grounding them on proprioception as the subtle core of our daily experience. It thus advances some aspects of the pragmatics from Book 6, while outlining aspects of the Algoricene theory in Book 5.

Book 3 develops the core concepts of Radical Movement Philosophy, as principle of fluctuation and swarming ontology. These unfold in a second movement as conceptual triad: openness (*clinaos*), consistency (metabodies), and variation (intraduction). In a third movement the latter unfold into another conceptual triad: rhythm (affect), orientation (desire), and contact (sex), closing with an orgiastic ontology that serves as leap into the next part.

The second part includes three long books that provide a second layer deepening the field in interrelated ways. Subtitled *R/evolution Technologies,* it first exposes the technologies of variation in nature (Book 4), then the technologies of reduction in the Algoricene (Book 5), and finally some possibilities for overcoming the reductive fold (Book 6).[49]

Book 4 proposes a swarming chaosmology as theory of orgiastic evolution, building upon the primacy of indeterminate quantum fluctuations in contemporary cosmology as well as on symbiogenesis and other branches of contemporary science, where cosmic and earthly evolutions unfold, as entangled movement emerging with the multiple *n*-folding of fluctuations. It culminates in the concept of *metabiosis,* which designates life as indeterminate symbiotic mutation and process of diversification.

Book 5 diagnoses the regimes that have formatted movement, reducing its openness, and presents the theory of the Algoricene or Age of Extinctions and Algorithms, and the panchoreographic, which exposes how a planetary-scale field of alignments of geometric reduction appeared and made itself dominant. It exposes a *kinetic ontology, genealogy,* and *dynamics of power.* The Algoricene is a *metaformative theory of alignments* as counterevolutionary will-to-reduction. A second part of the

(Del Val 2018b; 2020c; 2021a; 2021b), *trash-human unhancement*, *planetary holocaust,* and *planetary health* since 2021 (Del Val 2022; 2023a; 2023b).

A contracted version of this book in Spanish, about five times shorter, is already being prepared, as well as catalogues–books focusing more on the art projects and the pragmatics and techniques. Likewise, the earlier Spanish version from 2016 will be published separately later on, as well as collections of essays from the period between 2002 and 2022. For an online compilation of essays, see "Metahumanist Philosophy," *Metabody,* https://metabody.eu/metahumanist-philosophy/.

49 This echoes with a difference Jean Gebser's (1885) proposal for three epochs: the past unperspectival (or preperspectival) era, the currently dominant perspectival era, and an aperspectival (or postperspectival) era potentially coming up now.

book unfolds the radical critique of dominant cultures through the trope of trash-human unhancement and the Planetary Holocaust.

Book 6 presents an ontohacking and metaformance pragmatics, an aesthetico-politics, and a choral ontology, where I also discuss at length my own techniques and metaformance projects. It is here where I unfold in more detail the theory of metaformativity and my choral approach to a Dionysian aesthetics and politics of moving bodies, where the politics of life is intrinsically aesthetic as it implies diversification and enriching of its own expressions. Proposals are made here for a radical pragmatics that does away with human supremacist presumptions in facing the extinction challenge and the disaster of civilization. Linking to issues as varied as deep ecology and ecofeminism, indigenous and gatherer cultures, degrowth and anarcoprimitivism, animal rights and food politics, queer, decolonial, and neurodiverse movements, the proposal is always grounded on RMP and a claim for the body, its richness of movement–perception, and a reversion of the original inversion of values created by dominant civilizations.

Finally, Book 7 itself comprises a third part, adding a third layer of consistency to the field. It is a book-long survey of movement philosophies, mostly in the Western tradition from the pre-Socratics to our days. In it, I look for glimpses of a field theory while outlining the emergence of the mechanistic tradition as a dominant anomaly, an inflection surrounded by hints of other modes of thinking movement on which I hope to expand.

The overarching trope for the whole book could be that of metaformativity or *enferance,* as theory and practice of variation and plasticity (without form), thus also a critique of the alignments that reduce it. Metaformativity is a thinking of and in motion and variation, a study of alignments and openings. It is about a *plastic realism* that considers the intrinsic, recursive but open nondeterministic relation between movement, perception, and thought.

This book proliferates all along in a swarming diversity of registers from serious philosophy to poetic tone or to political or artistic manifesto, from self-help books to ironic, blasphemous Dionysian madness.

#### *1.4.1.1 On Gender Uses*

The book oscillates between nonbinary uses (hir/s/he) and binary uses. The former are applied whenever there is a hint that the person mentioned might not necessarily assume binary genders. This is of course a questionable criterion, optional to the idea of using only nonbinary language but linked to the gradual emergence of the book and its evolving writing over more than eleven years. Neutral or nonbinary uses are meant to also include nonhumans and the inorganic toward increasingly undoing humanist distinctions.

#### *1.4.1.2 On Images*

Images are another of the dominant epochal manifestations that this book and its practices work against, it might appear contradictory that so many images appear, but this follows the same logic related to the fact of writing a book. It is part of a broader disalignment both from within and from without the field of alignments. Images are meant often in diagrammatic way, as a visual movement that expresses itself an idea. Sometimes it is the entire unfolding of images throughout a section that is in itself displaying a movement-idea in resonance with the text.

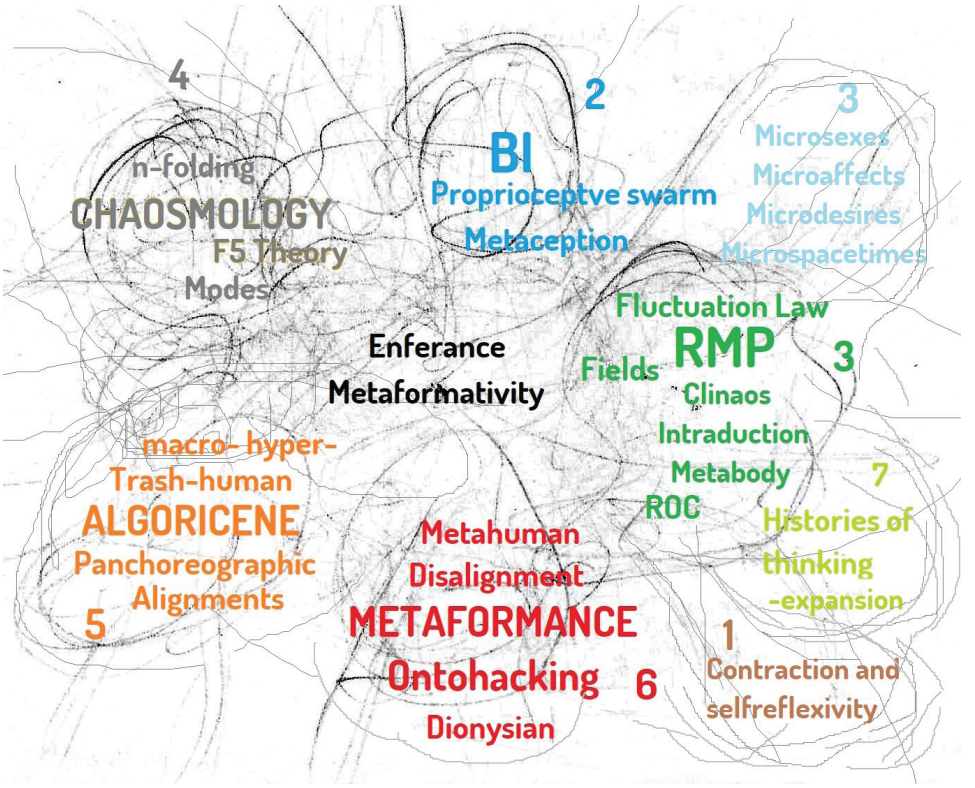



*Fig. 3.* Conceptual field diagram with the five/seven major bodies/book/subfields of the metabook, each one related to a major sub-book.

Metaformativity/Enferance (Overarching trope):

1. Metaperception (Book 2) – BI and proprioceptive swarm – metaception
2. Meta-ontology – Radical Movement Philosophy – field theory
   a. *Clinaos*/indeterminacy (Book 3) – metabodies/consistency – intraduction/variation
   b. Microaffects – microspacetimes – microsexes (Book 3)
      i. Swarming chaosmology and orgiastic evolution (Book 4) – fluctuation –variation – F5
3. Metacritique (Book 5) – Algoricene – macro-hyper – alignments – ontology of domination
4. Metapragmatics (Book 6) – metaformance/ontohacking – disalignments – choruses – postanatomical bodies – amorphogenesis – freedom without form
5. Metaphilosophy (Book 7) – reverse histories of thinking of or as movement – expansion
   a. Introductions and the book as field (Book 1) – thought, language, and writing as movement – contraction and self-reflexivity

### 1.4.2 Diagram of the Concepts and the Book

Fig. 3 presents a diagram of the book composed of seven individual books. A different way of seeing it is that there are five major fields: perception and neurosciences (Book 2), movement–body philosophies (Book 3), cosmology–evolution (Book 4), technocultural critique of power (Book 5), arts and politics (Book 6), with a contraction of all in Book 1 (introduction), and an expansion of the philosophical field in Book 7 (appendix). In other worlds, five elements/fields/metabodies, a contraction

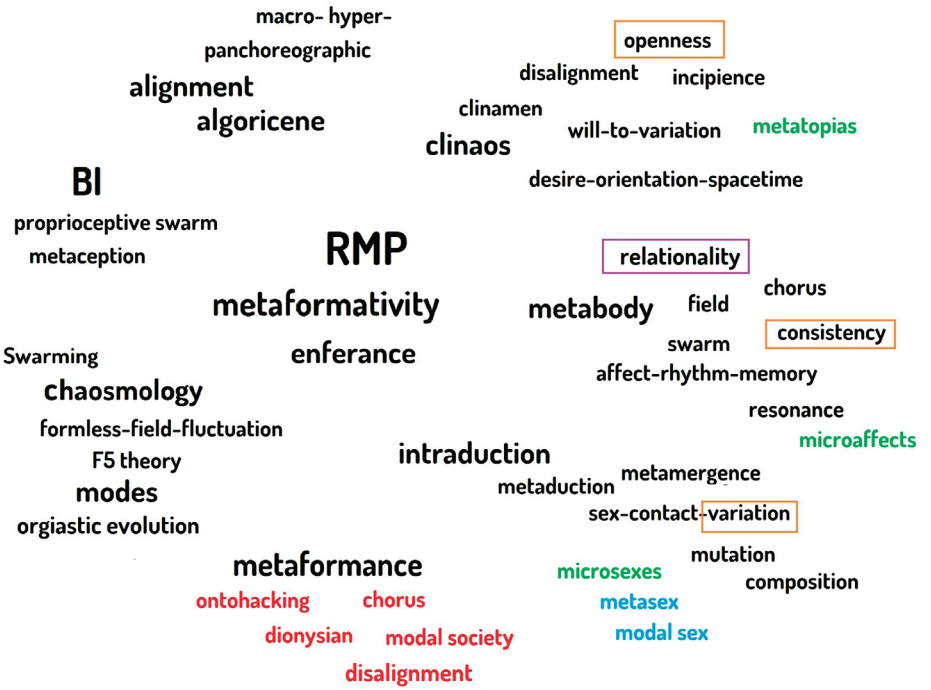



*Fig. 4.* Diagram of conceptual fields of the book.

and an expansion, a chaosmos with endless subfields wanting to become a chaosmos too, following the same chaosmic desire of proliferation of worlds, webbing with each other.[50]

The field oscillates between a post-posthumanist and a postqueer critique claiming body-as-movement as the crucial, often missing, in-between term.

Another metamotif returning in almost every part is the chorus and the orgy as my more recent take on a swarming politics, culture, and art of life that takes further my experience in assembly movement toward a bodily, Dionysian politics–aesthetics, but also as a trope for understanding cultural evolution.

...

The seven books have no linear causality and could be read with relative independence from each other. Many themes return with variations, in swarming mode.

Like a mountain walk, it has different levels of difficulty. Some parts are hopefully accessible, perhaps even appealing to any public. Others will perhaps require greater effort, interest, and motivation. And some might be peaks of difficulty for the dauntless.

The current structure has emerged without a plan, and so have the concepts. Some of the core concepts appeared quite late, and others have been hovering around for many years and are strikingly resilient, shifting within the field. In fact, *Metabody*

50 See Book 4 on cosmology, the cosmic web, and eternal inflation.

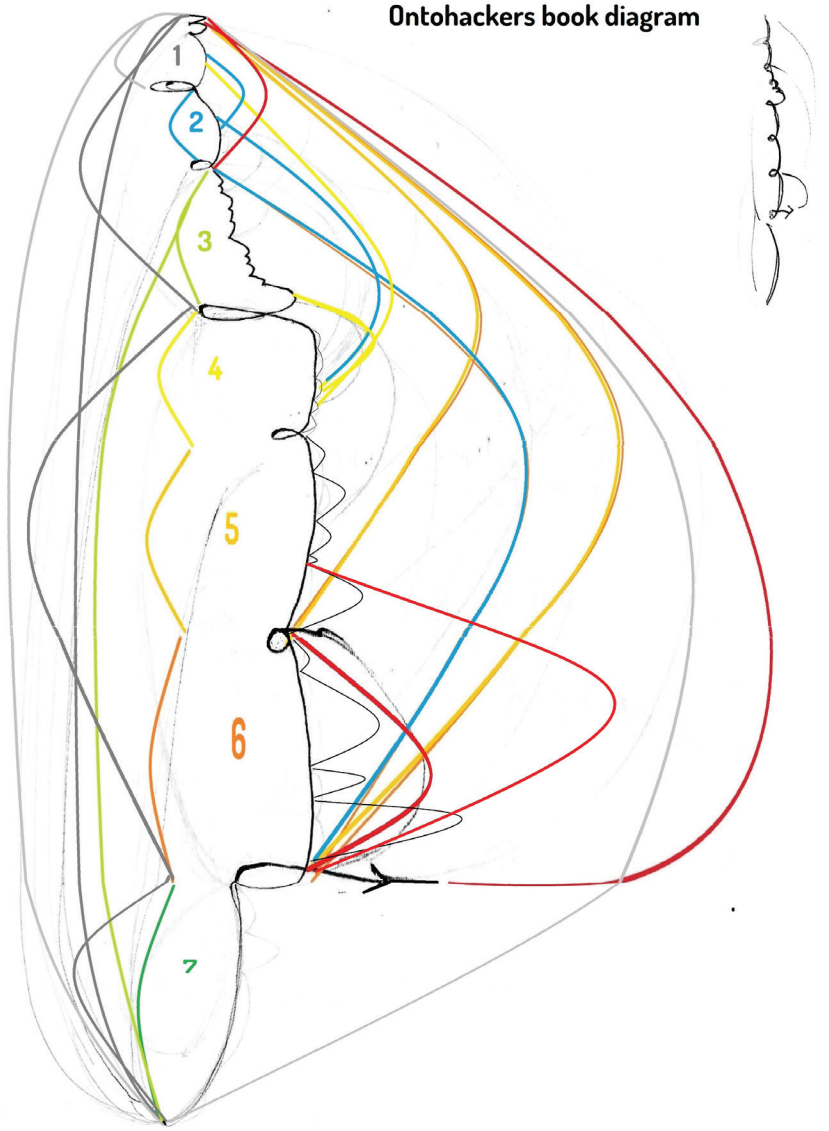



*Fig. 5.* Metastructure diagram of *clinamens* (lines on the right) and *mezzos* (lines on the left) composing the book's metafield.

Book 3 has an ever-rising rhythmic structure in multiple propulsions, ending with the orgiastic ontology that serves as a jump into Book 4. From there every book ends with a clinamen that overlaps and propels one book onto the next, until the climax of the ending in Book 6, that propels the entire book beyond itself.

Nothing of this was meant to be as it is. This is an after-reflection of an emergent metastructure. In-between there is always the swarming movement that incipiently expands in fluctuating blurriness somewhere here and contracts in sharpness somewhere there, weaving across the shifting conceptual fields and concepts, their variations, and their intra- and exo-connections.

was the title of my first theoretical essay (Del Val 2002). Others still that looked promising at some points left the field in later versions.

There are perhaps three main metamovements underlying the book: a critique of the dominant paradigm, a proposal of new concepts, and a pragmatics. *But nothing here is programmatic. No concept is explaining a practice. No practice is demonstrating a concept. They have coemerged over years of reciprocal evolution and mutation.*

Some concepts may be difficult to understand without the related movement practices. Take this book as an invitation to join them.

### 1.4.3 Metastructure

The book is a rhythmic field of *clinamen*s and *mezzos*. It un/in/enfolds in a triple dynamic: between multiple interlaced *clinamen*s or openings and intraductions or *mezzos* that condense new ideas, together composing the fields or enfoldings, which connect between each other as well as tend beyond the book. Endless fields within fields, connecting through their clinamental unfoldings, all together composing the consistency field of the entire book, itself a large *clinaos* that takes in and gives out, propelling itself, beyond itself and out into the world. The three parts are one large scale expression of this: an opening, a middle part condensing, and a final section giving additional consistency and resonance. But every part has its *clinamen*s, intraductions, and *mezzos,* also connecting across parts, and endless smaller *clinamen*s and intra-, para-, meta-, or epi-*mezzos* (fig. 5).

### 1.4.4 (Meta)philosophical Fields

What unfolds in the process is a *philosophical field* that can never be closed, that is itself continually swarming, fluctuating, impossible to stop.

A book cannot but be a field, a metabody of a certain consistency and openness. *The more consistent, the more open,* the more it allows the reader themself to compose a field with it. Every reader in different a way.

The field nature of the book and the breadth of its scope imply that some parts will necessarily be only in draft. It should never be taken for a *system* because a *field* is quite the reverse. Don't take it for a self-referential truth. Take it as movements to take on in variation and critique. Find out their biases and inconsistencies, ontohack my proposal. As a reader, take on the movement!

As I write, my thinking moves, never reaching any kind of stable state, unfolding as an always shifting resonance of dynamics and rhythms.

I feel like I am just starting on the journey, more and more aware of the hidden iceberg of the unknown and unthought, the endless authors yet to discover, the thoughts emerging vaguely as I write, the endless spiralling as I go back to books and authors whom I thought I knew well, just to rediscover them anew. And the myriads of new readings that open up every day, as new unexpected connections in an infinite universe, while widening and returning to my fields of interest, threading across cosmology and evolution, technocultures and the age of algorithms, embodied cognition and perception, philosophy of movement and the body, arts and politics.

This book is a matrix for future expansions where each book could evolve into one or more volumes, but also a matrix for future contractions into shorter condensations. At times it risks becoming an all-encompassing tree, redoing the grand mistake? I take on the risk!

The philosophy I propose is not only *about* movement, but as movement and *in motion*. It proposes to undo the split between movement and thought that came with fixed points of vision. Such a philosophy can only be a New Physics of transformation.

Philosophical fields, rather than systems, need to be mobilized: for unfolding thought-as-movement!

### 1.4.5 Present–Future *n*-Foldings

The field of this book is in constant metaduction or metamergence, with new nodes of energy density coming up, where every idea is always already a field, metaducing and webbing itself in the midst of a multitude other fields. Always shifting with all its emergent connections, like a cosmic web, as new zones of consistency emerge.

Because this book is so large and has been emerging for so long, it bears strata from different periods, and selves, like a sort of accumulation of layers in an archaeology of thinking, like a cathedral growing over centuries, where some older ideas persist and transform, other disappear to later reemerge in new fashion, but with some traces of the older modalities of thinking in which they emerged, like a city of multiple layers, a bit like the city of Rome. Some parts are still indebted to periods where I had not fully developed my conceptual field, trying to break through other people's concepts, but weaving with them, while others are more mature and taking it beyond already, like an arrow's point. Sometimes one sees older selves that were still trying to break through, coinhabiting with newer, sharper ones that keep mutating. The book is also what in biology is called *degenerate*: when similar functions can be performed by different components or processes, as when similar questions reappear in different sections, along different movements of swarming thought.

With always only drafted and incipient parts, other more consistent, others already in ruins, partly forgotten, and fading in a background, it is necessarily incomplete and in motion, but with some ideas reemerging like electrons jumping, as if I were discovering them anew.[51] It is actually impossible to bring all its parts to a similar mode of completion and thinking, because in such a large field every round makes the entire field shift in a never-ending loop. All along ideas recur, in swarming repetition-in-variation.

The book is always already incipient: present-future, enfolded with its multiple pasts in a multitude of shifting tendencies. The present-future of the book already points to multiple potential future evolutions, either as revisions of this book or into new books, like a cascade of universes within universes. Every tiny subchapter could become an entire book, but the whole field would shift with it.

Book 1 may keep providing new contractions and self-reflections of the field.

Book 2 will perhaps continue elaborating on symbiogenesis of proprioception, neurosciences, quantum neurobiology, concepts of the body, communication, language, thought, and intelligence.

51 Metabody and metaformativity are perhaps the oldest and most resilient concepts, along the microsexual, postanatomical body, and the panchoreographic, which ensued in the Algoricene theory. The most recent inflection is that of trash-humanism, the planetary holocaust, and the Dionysian politics of life through the pragmatics of the chorus.

Book 3 will maybe continue unfolding its core concepts of field, *clinaos,* metabody, metaduction, enferance, and its microsexual, microdesire, microaffective, and metaspacetime ontologies.

Book 4 will probably continue elaborating on cosmology and physics, biology, geology and chemistry, environmental science, biodiversity, behavior studies, ethnography, and sociology, and the novel concept of metabiosis.

Book 5 will most likely continue diagnosing regimes of power, technologies, and alignments, old and new, transducting with the exponential field of quantum computation and the planetary crisis and expanding on the genealogy of the planetary holocaust and its foundational nature to all human civilizations.

Book 6 will quite certainly continue unfolding the aesthetics and politics, the ontology and politics of the chorus as revision of ethnography and anthropology and its extenstions in animal ethology, dances and architectures, the revision of histories of the arts from a swarm–chorus and a metaformance–proprioception perspective, the practices, and techniques, now focusing on new turns to the concept and pragmatics of the chorus, and the ontological "therapies" and ontohacking activism, as well as more specific iterations of modal societies, health, education, work, economy, and so forth, and new activist strategies.

Book 7 will eventually continue expanding on the study of movement philosophies and their associated movements from ancient non-Western philosophies and the pre-Socratics to today, deepening into non-Western sources.

In many ways I feel that the book, even though long as it is, is just starting to unfold its field.

### 1.4.6 An Impossible Book

Ontology is linked to books, at least since Parmenides! Books are a good candidate for a technology defining the current era, where written language gets systematized as a dominant form for planetary relations. Ontohackers is therefore an impossible book! An open process. Foreboding the end of ontology? And it addresses an impossible, multiple, indeterminate, varying, more-than-human reader! Perhaps also foreboding the end of the era of fixed knowledge, toward an era of knowledge in motion?!

This is a metabook made of seven books. It wasn't meant to be like this, it came up like this. Perhaps like a sort of Zarathustrian and dancing antiapocalypse: may it help undoing the apocalyptic drama that humanity has written for itself, toward a metahuman flourishing!

It is also a more-than-Proustian *microrecherche* or *metarecherche* into bodily memories and movements as sources for an endless transformation.

The irony is that there may be no readers, no "civilization" after 2050, maybe the book arrived too late!

…

A discordant, swarming monster out of tune with itself, hopefully holding together while it overspills itself in every direction, swarming with neologisms that work against its own consistency. Oscillating between extreme sharpness and complete blurriness, hijacking itself in avoiding congealing in a full coherent picture, swarming away from itself in orgiastic neologistical proliferations, tending out toward too

many things at the same time. Unreadable and unwriteable: unmanageable monster that constantly fights to get out of control.

A book for nonhumans as it works against the human supremacist tradition that arguably underlies most or all books and their economies of accumulation. A book for those who may move away from human supremacism and into metahuman becomings.

#### *1.4.6.1 A Great Healing*

This book is testimony of a great healing. For half of my life, I internalized in intensified manner so many of the alignments, blockages, proprioceptive atrophy, self-control, anxieties, and discomforts of current dominant culture, the same ones that I have been disaligning from in the second half of my life, in a never-ending process, much of it along the writing of this metabook.

The process has taken me further and elsewhere than I would ever have imagined, and seems to have only just started, because along the way I realized that it was not just a question of disaligning, not of realigning nor of getting anywhere. It was and is always a question of actively partaking in a never-ending movement of cosmic variation and diversification.

But the pandemic and the planetary crisis have also made me change many priorities in life and in the book, increasingly away from the self-centered narcissism that permeates a lot of cultural production.

This healing also implies a new creative madness, ecstatic, Dionysian, adventurous, unbounded, risky, on the verge of the abyss, and highly untimely, also in bluntly recognizing the destructive madness of our epoch.

## 1.5 Dancing Chaos (in Times of the Postpandemic): Postscript on the Virus as Ally (for Metahumanist Mutations)

The Covid-19 pandemic exposes the conflict between the two planetary-scale metabodies with which we are entangled: the algorithmic, exemplified in the homogenizing thrust of viral media; and the bacterial and viral, which is a movement of ongoing mutation and variation, the movement of evolution from which we symbiogenetically stem. When the latter gets disrupted, pandemics arise. The Algoricene, or Age of Algorithms, is thus also the Age of Pandemics, or Pandemiocene (IPBES 2020).

We live immersed in multiple pandemics of affective and gestural contagion[52] and homogeneous propagation ruthlessly exposed and lacking any resistance due to the prevailing faith in Cartesian disembodied subjectivity. So called "viral media" impose a reductive and homogenizing perception, a propagation that minimizes mutation, at odds with the movement of mutation that actual viruses have been affording throughout four billion years of bacterial evolution through horizontal genetic transfer.

The proposal of this book is to counteract the reductive character of algorithmic media by recuperating the mutating force of viruses in evolution. This would be the

52 In Book 5, I will expand on the homogenizing contagion of media through the trope of the panchoreographic (Del Val 2009a; 2009b), which exposes how geometric fields, culminating in the fixed point of vision of linear perspective and then double-folding into cybernetic, and now postcybernetic big-data networks are based on a homogenization of sensorimotor ratios that enact a reduction of movement, a frozen field where movements propagate in homogeneous mode.

purpose of a truly *viral philosophy*. Viruses have always been an ally of evolution. Viral media (for instance, Facebook) are perhaps the type of pandemic we need most urgently to become immune to, through deepening our Body Intelligence as they mobilize a homogeneous mode of sensorimotor and affective–cognitive contagion that alters everything in our ecologies and bodily chemistries.

Disruptive technologies are in many senses highly conservative and uncreative, inflating preexisting conceptions of the individual, its fears, and its obsessions with identity, quantification, domination, and control. We need a more radical creativity to reinvent our most fundamental conceptions in more subtle and sustainable ways.

We live in a society of narrow-bandwidth bodies, increasingly immobile, clicking on screens. Hopefully, the confinement periods and social distance in the pandemic have made everyone realize the importance of movement, of sensory experience, and of embodied intra-actions.

There are endless bodies in the body, endless earths in the Earth. The journey beyond the quantitative infinite is inside the body, in its qualitative infinity. We need to recover a broader-bandwidth body.

The challenge is not merely in disseminating new contents in the existing frames, new categories in the categorizing matrix, new positions in the grids of domination, nor mere disidentifications: but to open up the entire planetary-scale, ultra-heavy infrastructures of world reduction. This can be done by moving in new ways, disaligning, reinventing our relationship with the matrix of reduction — for it may take centuries to actually undo the dominant infrastructures themselves.

Can we unleash such a contagious sensitivity for mutation, so that domination and control reveal their poverty and negativity, until they are finally abandoned? Can we unleash across all bodies an antivirus of ongoing disalignments, as creative force of evolution, that keeps going, growing, and counterbalancing the reductive alignments of domination?

The swarming power of BI needs to be foregrounded in times of the reductionist promises of AI revolutions that conceal an extinction. Becoming ontohackers involves a radical movement evolution, revolution, or *n*-volution: a counterreductive or antireductive move. It's about dancing with chaos: a movement r/evolution for ecologies to come or, rather, ecologies in becoming.

# In Search of Lost Proprioception
## A Metaception Theory of Body Intelligence

*Sit as little as possible; don't trust any idea that was not born in the open air and of free movement — in which the muscles do not also celebrate a feast.*
— Friedrich Nietzsche (2012, translation modified)

### 2.1 The Primacy of the Most Neglected of Senses

Have you ever realized that you can feel your own body: your movements, your muscular tensions and torsions, your posture and gesture, the deformations of your muscle tissues and joints? But maybe one should say that *the body feels itself,* its motion, as there is no self separate from the body. This self-sensing is not essentially touch, nor any supernatural or extrasensory process. This self-sensing is about changes in the distributions of force, tension, and torsion in the body's tissues.

This book proposes a redefinition of the body as indeterminate, self-organizing matrix or field of self-affecting, self-sensing, world-affecting, and world-sensing fluctuations. It proposes to identify thought and movement and attacks the tradition that has divorced both by promoting alignments and immobilities which, by becoming planetary, have unleashed, not only all human ills, but a mass extinction.

There is a sense that few people know about, and yet it is perhaps the most important one of all. It provides at the same time the sense of body, of self, of world, of relation, and of capacity to act. This is *proprioception,* the body's sense of its own movement. Proprioception is grounded in the multitude of receptors in the body that sense changes in tissues, giving us continuous feedback both conscious and nonconscious of relative position, elongation, dynamics of tension and torsion, posture, speed, effort, and distribution of force. The body senses the elongations of its own muscles, tendons, and movement in the joints, which, together with the sense of equilibrium and other sensory inputs, gives the body a complex sense of how it moves in relation to the world.

When you hold your hand up, gesturing in conversation, and have a sense of posture, of knowing where the hand is, and what gesture it is doing without having to look at it — feeling what its zones of tension are or how it moves in relation to the rest of the body — you are experiencing proprioception. You just *know* where your arm is. You never thought about it, but the body knows. If you try to rationalize the gesture, controlling it, there are some chances that you will block it, or that it will lose its spontaneity and expressivity.

Proprioception is a specific sense modality, but it's also where all other senses get entangled with the body's capacity to move. Proprioception is both itself a mode and the transmodal and metamodal sensory matrix of the body.

The inexistence of proprioception in our vocabulary is alarming and extraordinary. How can something so important be missing? Perhaps because our entire epistemologies, ontologies, and technologies are grounded on the reduction of proprioception, that is, a culture of immobility culminating in the fixed point of vision of linear perspective. We have taken on the belief that we are disembodied subjects, looking onto the world from fixed points of vision located in some virtual outside and that we are always guiding our movements as controllable trajectories in a fixed space. Our dominant ontologies, technologies, and epistemologies have been built entirely upside down, upon the most recent, anomalous, and reductive type of perception.

We will see that the story of our movement is far more complex and interesting and that it hovers mostly in nonconscious spectrums, which I seek to regain without subjecting them to rationalization and control. "Nonconscious" does not refer to an indistinct catch-all that includes all that escapes consciousness, as its negative dark side that eventually needs to be brought the light of consciousness. It refers rather to a much broader field of possibilities that can be gradually unfolded. For this, one will need to carefully avoid reduction to rational modes of reflexivity, which typically reduce movement to logical, causal lines.

This book is not about making proprioception conscious. Rather, it is about opening experience up to the irreducibly diffuse nature of proprioception and its infinite plasticity and dynamism.

Proprioception is the site where action and perception are one. Without proprioception, the body would not be able to react to external (exteroceptive) stimuli. What I see or hear makes sense as long as I can move in relation to it, elaborate a relation with it. But I can also react to stimuli from internal (interoceptive) senses of my organs (digestion or pain, for instance). Proprioception is the body's dynamic matrix, where every other sense gets integrated in our conscious and nonconscious capacity to move.

When I buy my bread in the bakery every morning and take it in my hand, I feel the bread's consistency through my own, and I can feel the changes of force distribution in my muscles, tendons, joints, and other tissues. The movement by which I sense and know the bread's consistency is the same one by which I sense and know myself. My sense of self is made of the ongoing and consistent fluctuation of my tissues in multiple acts of relating to the world. Every morning, when I wake up, I regain a sense of self through vague proprioceptive actions — stretching and feeling the bed sheets, standing up, starting to walk, and feeling the pressure of my feet on the ground, my clothes, the consistency of the coffee machine and its buttons, along with its odor and sounds as they color my muscular fluctuations. This is of course also how I gain a sense of world, and of my active and dynamic capacity to move in relation to it, which is also the vitality of the field I am part of.

When we are stressed by external forces, we tend to focus inward, on proprioception, regaining our sense of body–self–world. When everything else collapses, the only certainty we have left is our proprioception. Proprioception is both the deepest anchoring and certainty we have, and gloriously indeterminate, open, plastic.

*I proprioceipt, therefore I move,* therefore I am, in becoming, with the world!

We seem to have forgotten that behind every learning process, and therefore all knowledge and memory, lies proprioception. When I learn a language or a music instrument — or to count, or any other practice, no matter how seemingly disembodied or abstract — there is proprioception. I always learn by moving, and the vocal muscles in verbal language, the manual movements of counting and writing, the endless spatio-temporal metaphors underlying mathematics or language, all of these are kinaesthetic and proprioceptive. Furthermore, I argue that different *types* of movement underlie different types of practice. For instance, the highly articulate movements of the hands in humans, associated with counting, are probably foundational for the increasing segmentation of movements grounding algorithmic culture. I am not claiming that proprioception is primordial to logical reasoning (as a purportedly "higher form" of thought). Rather, logical reason is merely expression of one mode of linear proprioception, and perhaps not even the most interesting one.

Ultimately, we can only know that which becomes part of our proprioception in some way or other. This includes ourselves as much as the world. Stated otherwise: other layers of more abstract knowledge can perhaps be added onto it or *extruded from it,* but if proprioceptive knowledge is missing, these extra layers will be either meaningless or problematically imposing abstractions onto the larger field from which they emerge. The further away proprioception extrudes, the narrower its alignments, as Gebser (1985, 23) proposes in relation to vision and as is the case with planetary-scale computation systems that expand our clicking gestures through billions of perspectival points.

Proprioception and movement underlie the plasticity of the brain, of the nervous system, and of the affective–cognitive–motor capacities in animals, including humans. Since there is always fluctuation, variation, and indeterminacy involved in movement fields, all learning and thinking involves indeterminacy or openness as a crucial component. What many AI engineers and transhumanists seem to have forgotten in their quest to program behaviors or to become immortal by replicating a brain in a machine is that the core aspect of an identity, being, brain, or behavior is plasticity itself — process, becoming. AI engineers miss this crucial point and freeze life and evolution. Our essence is not identity, but plasticity.

At even deeper levels of enactive cognition theories (and echoing with and beyond Maurice Merleau-Ponty), the way in which I create for myself a meaningful environment for interaction and the way synapses appear in the brain is through moving in relation to a world. The problem is when these synapses become independent states that we tend to call "thoughts," which, not content with their own abstract operations and neural movements, seek to impose themselves on the larger body–field from which they emerged. This tends to happen when movement itself gets minimized through proprioceptive atrophy, allowing the abstractions to take over.

Learning to move can happen in many ways, and each way constitutes a different world of relations, and thus a different mode of enaction or cognition. In our predominant culture of geometric environments, one learns to move in linear ways: framing things at a distance, establishing a cognitive landscape of objects, categories, and functions — a geometric movement field. But this is just one way of moving, emerging in the last eyeblink of evolution, and not the most interesting or desirable one.

So-called consciousness is but one peculiar surface effect of all the molecular and nervous processes going on in the body. The richness and complexity of our proprio-

ceptive movement has swarmed over billions of years of self-organizing molecular assemblages. It seems ludicrous to impose on them the late appearance of a rational will, which is in fact a collateral effect, in order to explain, control, or narrow down their self-organizing movement and dynamism.

...

Proprioception is the deepest ground of empathy and meaning. It connects us, bodily and primordially, with everything. It is the basis of memory and experience as a process that does not necessarily go through rationalization, and which some theorists, like James J. Gibson (1979), have called "direct perception." When I hug someone, that person has become part of my tissue deformations and fluctuations. This means they have become part of my proprioceptive memory made of the swarming dynamics of trillions of proteins folding every time a muscle contracts but also of its extension and correlation in synaptic networks of the brain, and the various nervous systems.

The meaningfulness and connection implied in the act of hugging grounds itself in how my tissues (my entire body, its posture, fluctuation, movement, tensions, and torsions) recompose in the process with the other. Do I feel in hugging a deep entanglement and emergence, an open capacity for ongoing reconfiguration? Or do I feel a less emergent movement getting imposed from one side, determining the process? Recomposing means also affecting and being affected. Affects emerge from these affections as the quality, tonality, intensity, vibrancy, and rhythm of the composition, which is not just here and now, but a complex, multifaceted, and nonlinear evolution (memory) both in my own life span and beyond. Every field is already an affect, but every affect is indeterminate by principle, as it relates to complex fluctuating modes in fields, which never resolve in sharply defined "states." States are always of fluctuation. The more determinate, the more domination is at stake, and needs to be overcome.

When I see a gesture at a distance, I establish a sense of empathy, meaning, and connection with it, because I connect it to my proprioceptive memory, that is, to how that gesture could feel like if I were to perform it, what bodily state and dynamics it would enact or express, or how it would affect my own internal movements or capacities for action even at a distance, as an affordance. This is what is at stake in so-called mirror neuron theories, which speak only of certain processes tending to replication in cultural contexts that foreground perspectival alignments and mirror relations between bodies. But since no gesture we see is identical, and no proprioception is identical, every movement we see gets integrated into our proprioceptive memory as a variation, a swarming, a transduction, or a diffraction, unleashing a new capacity to move, connect, expand, and compose with the world.

And yet the more we align with mechanical and repetitive movements, the more we narrow down our own capacities to resonate with the world in new ways. Outside of perspectival environments, and when we don't assume mirror relations between bodies, gestures do not disseminate in terms of replication (gestural contagion). They are more like the diffractions of waves in the sea. Proprioception is always recomposing in a swarm-like manner: like the organ player in Merleau-Ponty, who readjusts her proprioception with the new organ she has to play (1962, 168). If I see your gesture, I cannot reproduce it. Rather, I transpose it to my irreducibly different proprioceptive swarms, and their irreducibly different but open memories.

If, echoing Gordon W. Hewes et al. (1973), language emerged from gesture, I argue that gesture in turn emerged from proprioception, as an extension of it, as relations started to get articulated at a visual distance. The further segmentation of gesture into discrete verbal movements, then into gestures of writing, and lastly into replicable signs, is part of this proprioceptive extrusion. But no sign will make any sense if it doesn't resonate in a proprioception. Writing as an externalized memory is always already an expanded proprioception.

Alignments make sense because of proprioception, even in the coldest typography we read or in our gesture of clicking. Our reading of symbols is crucially grounded in proprioceptive learning, bodies in motion that we are. Just as signs evolved from gestures, and gestures and external senses extruded from proprioception, there is still a proprioceptive memory embedded in signs of any kind. But signs can become utterly alien fields, especially in the realm of computation, separated from proprioception altogether as the incomprehensible language of code, which is made for binary machines to read. What is the proprioception of computation systems? Well, code itself and calculation, one could argue. Yet as they become dominant systems, they also become our proprioception, as we become aggregates of a superstructure of a higher degree of magnitude — a planetary cyborg.

...

*Amorphous zones of experience* constantly populate our lives in excess of reductive reason. Waves in the sea, flames in the fire, clouds, nebulae, swarms, and flocks, the intrinsic pleasure and fascination we have in beholding their movements reaches down to our deepest molecular memories. It involves a physical emotion in which we feel those ever-changing plastic movements transducing and resonating in our proprioceptive field, the richer the multisensory registers, the deeper the entanglement: when we linger contemplating the movement of waves in the sea, or floating in the water, or listening to the rustling of leaves in the trees, or the caress of the wind and sun, or the emergent sensations of proximity and sex, of an embrace or a caress; every time we close our eyes to recover a sense of proprioception, feeling our breathing when we are stressed and saturated by imposed alignments, or stretching and lingering in the proprioceptive sensation, or in the emergent movement of dancing with someone, or in music making, or in a conversation. In each of these occasions, we realize that relating and communicating is not about making meaning-as-pattern, but about being part of a movement of variation in which we open up to an undefined otherness while creating a relational field of resonance. Our plasticity needs these amorphous zones of experience to keep opening up beyond the narrowing imposed by gridded perceptions.

Proprioception, we will see, is always an *alloception,* an opening up to the alien and indeterminate in ourselves and others. There is a joy in this opening, quite different from the one at stake in the quantitative intensity of narrowing, addictive alignments such as television, gaming, porn, clubbing, etc., that is, any technologies that afford homogeneous contagion of given movements. *Alignments are addictive because they reduce the spectrum and intensify in quantity.*

Sex, or love, can imply degrees and modes of deep proprioceptive entanglement, of reciprocal composition, transformation, and affection. It is an extension of our evolutive heritage, of bacterial sex as ongoing mutation. Sex and love, as proprioceptive entanglement, transform the epigenetic expressions of our genes, our metabolism, hormones, and other chemical processes, but also our perceptions, cognition,

and affectivity as we develop new modes of multisensory and proprioceptive entanglement with others. We literally compose new fields, metabodies with peculiar, unique, and changing self-organizing dynamics. Of course, in cultures like ours, this transformative power gets superaligned, so that sex and love become encoded in highly normative frameworks where relations have to follow certain patterns of movement and behavior, which are now subjected to new kinds of more dynamic alignments in marketing and algorithmic technologies. The more transformative the power of something, the more subject it is to reductive alignments of normativity or control in systems of domination.

...

Proprioception is the affective ground of our existence. It's where we are *internally moved by, or moving with, whatever affects us.* Proprioception is never passive. Rather, it always implies internal movement, transformative affection, transduction. There is no purely passive matter, but there are degrees of energy density in a field's fluctuation. Neither active nor passive, fluctuation is always in-between.

Affects are expressions of proprioceptive fluctuations as they condense into qualities, always retaining blurriness but sometimes imprinting themselves with excessive definition. An intense experience in childhood or later in life can leave certain strong or traumatic alignments imprinted in our plasticity, narrowing it down. In most cases the configurations of experience are less defined, given their emergence in a fluctuating matrix of proprioceptions and multisensory integration. Ultimately, every affect is a fluctuation of our proprioceptive field as it feels its affections in relation to the world and the minimal fluctuations of its own microcosmos evolving as qualities that tune our vital tone.

...

The sense of spatiality and temporality, of texture, consistency, weight, distance, and dimensions of something, of speed and rhythm. All these have a deep base in proprioception. My knowledge of the weight of the apple, or the distance to the corner of the street, is not a mathematical abstraction but a proprioceptive memory, a sense of movement, a capacity and effort built into the deformation of my tissues, their relation to each other and to gravity, and their ongoing fluctuation: *distributions of force* that constitute degrees of freedom, or the multiplicity of parameters enabling motion. Knowledge is always about *types* of fluctuation and their degrees of openness.

My dog-friend arguably propriocepts just as much as I do, but in an irreducibly different way, as would any other human I walk around with. The proprioceptive memory of another person will inevitably differ from mine, as it is not only linked to particular bodily traits (such as height, weight, or muscular training), but also to types of gestural repertoires, which differ according to cultural background and even among families in a same neighborhood, depending on the architecture of the house where someone grew up and the gestural–perceptual–postural habits they developed.

Two brothers can develop utterly different proprioceptions as each of them will enact a highly different cognitive–affective world in the process of integrating multisensory experience in movement. This is in turn an affective process, in which complex qualities unfold. The perceptions and proprioceptions of the shy older brother who likes to sit and read in isolation unfold in utterly different ways from those of

the bolder younger one who likes sports. The perception of the gay teenager who has to find ways to fight an internalized homophobia will be very different from those of the aligned straight guy who expansively takes over space. The extraordinary entanglement of twins is perhaps grounded in their proprioceptive similarity. This approach to movement, perception, and proprioception accounts for the radically different sensibilities of everyone around us, and the need to acknowledge them as reciprocal creative playgrounds of experience.

Proprioception reconciles two seemingly opposed terms: not only are we continually entangled with one another and our environment, but that entanglement always happens between irreducibly different proprioceptions. The paradox that connection can only happen between the irreducibly diverse is only a paradox in the frame of a perspectival culture that presumes communication as based on identical reproduction of patterns, a rather strange cultural belief.

This will be taken further in the next book, through the Epicurean concept of *metakosmia,* multiple in-between worlds. Every body has different perceptions and creates for itself different worlds of interaction. And yet we don't live in bubble worlds. Indeed, all these irreducibly different perceptual worlds are also irreducibly entangled and compose with one another.

...

Every time we enter a new space, it resonates in our proprioceptive memory field as a new invitation to action. Given the world's multiplicity and indeterminacy — the impossibility to fully know what space we will relate to and what potentials to move it will afford — it is clear that the curiosity of continually exploring new movement possibilities in relation to new spaces must be built into evolutionary memory. And yet, over millennia, this openness seems to have dramatically narrowed due to our alignment with geometric environments that make movement and space more predictable and measurable. Quantity emerges at the expense of qualitative variation as two ends of a spectrum.

The deep physical emotion we feel on top of a mountain or beholding a panoramic view is not just related to the multiple visual and multisensory inputs or the proprioceptive momentum of reaching the place and the singularity of the moment, but also to how that open space reaches into the depths of our proprioceptive memory as a highly indeterminate, novel, open-ended invitation to move. Maybe we can't jump to the other mountains, or rooftops in a city panorama, but this makes the invitation even more intriguing and paradoxical. It enacts an opening in our "protensions," our potentials to move and relate. It also presents to us an undefined world in which we start not to *select,* but to *create relations, rhythmic fields,* through a proprioceptive attunement that involves all other senses. When I look at a panorama, I don't merely select from its endless overwhelming multiplicity; I create for myself a rhythmic field of novel and emergent relations, unlike those of anyone else, in constant evolution. This is part of my own becoming.

...

Proprioception can be exclusively endoreferential. It is the first sense we develop as a fetus. It is itself a microcosmos in constant fluctuation. And yet, it is hard to imagine a purely endoreferential situation in life. Even if I am trying to focus only on internal shifts of muscular tension, I will probably feel the pressure of something: floor, clothes, chair, water, or amniotic fluid. So-called sensory deprivation rooms

are designed to leave out these external inputs to allow for a more purely endoreferential proprioception, like being back in the womb. The fact that they are not called "proprioception rooms" but "sensory deprivation rooms" says a lot about the neglected status of proprioception in our Aristotelian culture of the five senses.

...

One could radically renew the research into states considered pathological by looking at the issues of proprioceptive dissociation and alienation potentially underlying them, of which there are likely to be plenty, in a culture of proprioceptive atrophy. This generalized atrophy is itself a pathological cultural condition, but it can take severe twists for those who block their proprioceptions or dissociate from them more intensely, which in turn may underlie multiple other pathologies in the entanglement of the physical, the emotional, and the "mental," and of the individual with the social.

The most extreme cases of proprioceptive pathologies are when proprioception gets neurophysiologically compromised and is lost. People who lose proprioception lose all sense of self and of world.[1] They may relearn to speak or move around with the help of other senses, but their sense of self and world cannot be restored.[2]

...

Proprioception is essentially an *elastic, muscular–articular sensation*. Movement as *vis elastica,* as the elasticity of sensation rather than sensation itself (Deleuze 2003, 45), has its ground in our muscular proprioceptive sense, whose elasticity underlies all multisensory integration. It is also essentially *fluctuating, diffuse, blurry,* and *amorphous.* It may acquire extreme precision, as when I play the piano or dance and rhythmic accents appear from the matrix, but these always retain their openness, never becoming measure nor imposing themselves. Not just rigorously anexact, but plastically sharp, incisively open. Just think of Michael Jackson dancing as an astonishing example of how qualities of plasticity and suppleness can go together with the most incisive sharpness and precision.

Proprioception is also Henri Bergson's absolute movement, as irreducible, indivisible movement from within. It is the true *apeiron* (boundless principle) and *khōra* (formless space or receptacle), the indeterminate source, the plane (or rather field) of immanence from which and in which everything emerges. But unlike Plato's *khōra,* it is not a receptacle for the appearances of eternal forms. It expresses no forms at all. It is pure formless matrix, pure mother-womb without father and child, a great expression of the world's consistent openness.

1 In *The Man Who Mistook his Wife for a Hat,* Oliver Sacks (1987) narrates the case of "The Disembodied Lady," who lost all proprioception due to an infection in the nerves that connect proprioception to the brain. Sacks stresses the relation of proprioception to the sense of body, of self and identity, and of world and explains that although the patient managed to learn to move her body using other aspects of the nervous system (vision, the vestibular system, and hearing), she never lost the terrifying and alien sensation of being disembodied, "condemned to live in an indescribable, unimaginable realm — though 'non-realm,' 'nothingness,' might be better words for it." Of the "normal" person she used to be, the patient says: "She's gone, I can't remember her, I can't even imagine her. It's like something's been scooped right out of me, right at the center." This shows that proprioception is also at the core of imagination and memory.

2 One could perhaps consider developing techniques of sensorimotor plasticity where a sense of body and movement is restituted to a person having lost proprioception by means of new kinds of cross-modal integration.

Of course, proprioception can get aligned as well. All reductions come from it but turn back against it. Do they eventually end up going back to it, dissolving into it?

## 2.2 The Onto-epistemological Muddle, or Proprioception (Im)properly Speaking: Toward a Metaception Theory

Our understanding of perception has been grounded upside-down for millennia, and in particular over the past six hundred years, on the fixed point of vision of linear perspective and its associated rational and disembodied subject, creating a terrible onto-epistemological muddle.[3] How is it possible that the central role of proprioception has been hitherto missing in theories of perception or cognition?

Though Aristotle (1978) doesn't mention a muscular sense, and his own account of the five senses has been most influential in the generalized neglect of proprioception, his treatise on animal locomotion holds an implicit description of proprioception, or kinaesthesia. Unfortunately, it was only taken on in its less promising, proto-mechanistic aspects.

Before Charles Sherrington's study of 1906, there are only a few mentions of a muscular or kinaesthetic sense in the Renaissance[4] and the nineteenth century. Sherrington, in naming proprioception, linked it to specific receptors and actuators, and understood it as part of an integrative function of the nervous system, always together with extero- and interoception (Sherrington 1906, 114, 131, 317). Crucially, he defined it as a *proprioceptive field*: a microcosm made of endless changes, just like the surrounding world or cosmos. I want to claim that Sherrington's study was revolutionary and contains, sometimes explicitly and sometimes in germ, many of the ideas I will unfold in this book, including a field theory of perception. It's time to claim it, even with a century of delay.

Later, psychologist researchers like Gibson[5] emphasized it as an overall sense of body-self grounded on different receptors, including proprioceptors proper, but many others as well (balance, vision, etc.). Gibson saw it as an ecological sense of world, since it is through our movement that we feel the world *as* our plastic capacity to relate to it and act in it. We sense the world through our movement, or, in Merleau-Ponty's terms, we craft ourselves a world of relations.

Nietzsche, Bergson, and especially Merleau-Ponty[6] have all gestured toward proprioception, mostly as the muscular sense. But all of them also avoided fully engaging with proprioception as the ground for a complete redefinition of perception and movement beyond the perspectival–Cartesian tradition. Other researchers over

3 Maxine Sheets-Johnstone (2011) denounces in a similar manner the way in which proprioception has been the great absence in philosophical and scientific headquarters.

4 In 1557, Julius Caesar Scaliger proposed a "sense of locomotion" for the movement position sensation. In 1826, Charles Bell proposed a "muscle sense." In 1880, Henry Charlton Bastian proposed the term "kinesthesia" instead of "muscle sense." In 1889, Alfred Goldscheider proposed classifying kinaesthesia in three types: muscle, tendon, and articular. See *Wikipedia,* s.v. "Proprioception," https://en.wikipedia.org/wiki/Proprioception.

5 See Gibson (1966, 33–38) on overall sense of body and Gibson (1979) on the ecological approach.

6 Maurice Merleau-Ponty, in particular, has visionary cues toward reconceptualizing the body as field, though he never uses the term proprioception, which is strange given that he was writing decades after Sherrington. I will deal more in detail with Nietzsche, Bergson, and Merleau-Ponty in Book 7 on movement philosophies.

the past century, in particular during the past four decades, have also claimed the centrality and primordial nature of proprioception, kinaesthesia, and multisensory integration in areas as varied as cognition, learning, affect, music, dance, personhood, development, and evolution. These include music educator Émile Dalcroze (1921), movement theorist Mabel Todd (1937), psychologist Daniel Stern (1985), neurologist Oliver Sacks (1987), neurophysiologist Alain Berthoz (2000), philosopher Maxine Sheets-Johnston (2011), philosopher Shaun Gallagher (2005), and musicologist Alicia Peñalba (2011), as well as researchers of the physiology of animal behavior (Lissmann 1950), the evolution and proprioception of invertebrates (Laverack 1976; Mill 1976), learning (Wells 1976), and social cognitive development (Metzoff 1993). But this has remained a marginal claim in the face of the overwhelmingly dominant tendencies based on the visual and Cartesian model, the belief in which is so deeply established that it makes alternative proposals look like occult esoteric knowledge. There are also many thousands of published studies on specific aspects of proprioception, including a surprising number of studies on eye-muscle proprioception, and on cats.[7]

Even then, a deeper ontological redefinition of movement–perception has been missing: an ethico-political field theory and process approach capable of redefining issues of sustainability and freedom — an ontology that would free movement–perception–bodies from the inherited conceptions of consciousness, form, causality, teleology, or structure inherited from phenomenology, Cartesianism, mechanism, Aristotelianism, and the ocular-centric paradigm. Important hints of the centrality of proprioception have appeared, but it often still assumes the foundational concepts of the inherited ontologies.

It is Brian Massumi who recently brought attention to proprioception, both for the possibility of taking it "as the general plane of cross-referencing" experience, and for developing "technologies of emergent experience" (2002, 191–92).[8] This book elaborates precisely upon those two claims.

In a double loop, I want to take proprioception back to the "muscular" sense, as the site of integration of all sensing in our motion capacity, but also to see it as the distributed network of sensors and actuators across all tissues, bearing the most direct inheritance from our bacterial ancestors and their decentralized self-organizing movements.[9] It's as if all other senses, the entire nervous system, and the brain itself, were extensions and modulations of this primordial swarming sense.

In various senses, the "proprio-"[10] part of the term seems extremely inappropriate. It is an open and transformative process that undoes the fundamental split between a self and a world, not one oriented to bounding a self. It is the ground from which any conception of self can emerge. It is an *archē-self*, or even better, *anarchē-self*. But it also exceeds any bounded conception of the self and mobilizes a *metaself*. It is *allocep-*

7 See, for instance, the impressive listing of studies in Parker (2009).

8 Massumi's own description of proprioception's operation is promising in describing its relational and emergent nature, how its twists and turns differentially enact a rhythmic field where the multiplicity fuses in a unity of motion whose dynamic form is never accurate, but intrinsically vague: "a self-varying monad of motion [...] figuring only vectors, forming an 'anexact vector space'" (2002, 183).

9 Neuron microtubules could be actually remainders of undulipodia, the protein mobility systems of bacteria. See Margulis and Sagan (1986a, 149) and Sagan (1992, 369).

10 The etymology of proprioception, from the Latin *proprio,* "self," and *capere,* "to grasp or sense," thus to sense or grasp oneself points to its crucial role as ground for the body's self-perception.

*tion* as a process of transformation, a becoming other. In Arthur Rimbaud's terms, *je est un autre,*[11] "I is an Other."

Other appropriate terms might be *coception* as sensing-with, *intraception* as sensing from within, *transception* as sensing across, or, particularly, *metaception,* as both in-between, beyond, in transformation, and as infrastructural condition for a "content" of perception.

If perception, etymologically speaking, is the "action of capturing or grasping completely," then metaception is the action of prehending oneself and the world relationally, in motion and transformation, that is to say, emerging as self and creating fields in an open-ended process without ever achieving full definition, always moving on and incomplete. It defines the mode of emergence and unfolding of fields as cosensing and becoming-with. In metaception, one cannot separate perceiving from thinking and becoming, a separation only made possible through sensorimotor reduction, in the fixing of an observer. Metaception as self-world creation and sustainment shifts *autopoiēsis* to a *metapoiēsis*.

Metaception, as reciprocal perception of oneself and of the world, in movement, variation, and symbiosis, is also a theory of communication as process of differential, transformative affection that must sustain indeterminacy, where language is above all a field of nonverbal resonance, and meaning is an indeterminate differential, a mode of relational variation.

Proprioception is *metamodal,* rather than transmodal or amodal, because, while being itself a sense, it is also the dynamic matrix where multisensory integration gets entangled with our capacity to move while creating every time a new sense, a new combination of senses in variation, a new quality of experience, a memory, and a power to vary.

Proprioception is sometimes used interchangeably with *kinaesthesia*.[12] Alain Berthoz (2000, 25) speaks about this sense of senses, or sixth sense, as the sense of movement underlying all senses. I could well have opted for it as the privileged term of this book. Though there is now a growing body of research around it, proprioception itself is little known, so I have chosen it in an attempt to widen its conception.

Most of what has been called "tactile" is in fact proprioceptive. To have a purely tactile experience, addressing only surface skin sensations, is difficult to imagine. Taste is also entangled with the proprioceptive movements of the tongue and mouth, just as smell relies on proprioceptors that shift the position of tissues in the nose, and vision with eye muscles. Even hearing relies on proprioception, through our head's positioning, and many animals, like my dog-friend, have more lively and varied ear movements too. Proprioception is also the sense behind much of what we describe as "extrasensory" or instinctive. It underlies our processual knowledge of the world.

Inversely, it must be stated that much of our sense of movement comes from tactility and other sensory inputs, entangled with inputs from proprioceptors. If I move my fingers, the sensations more strictly related to muscular–articular fluctuation will be hard to distinguish from the skin fluctuations and microrubbing that also give me crucial feedback of the movement.

11 From a letter to Paul Demuny, May 15, 1871.

12 Together with the vestibular system that brings in the sense of equilibrium, as well as exteroceptive senses, proprioception forms kinaesthesia as the overall sense of movement of the body. Other accounts of kinaesthesia make it equivalent to proprioception, or to the sum of proprioception, balance, and other modes of sensing movement such as vecting and relation to gravity, while others refer to kinaesthesia as the nonproprioceptive part of sensing movement.

The multiple attempts in neuroscience to figure out how we make sense of a three-dimensional object through vision (for instance by introducing temporality) crucially miss the role of proprioception, movement, and multisensory integration in the process. It is *vision that gets integrated in proprioception,* and *not the reverse.* In evolutionary terms, vision comes much later as an outgrowth of *(an)archē*-proprioception.

Proprioception could redefine almost everything that has hitherto been located in exteroceptive and interoceptive senses, or in the realm of intuition, the extrasensory, the emotional, the spiritual, or the mind. It is the missing in-between. It is the body thinking–feeling in motion and relation, at its best and broadest range. It exposes the body's nature as a field capable of acquiring endless types of force distributions, intensities, and movements in micro and macro scales, from emotional vibrations in a person to flocking movements in a society.

Proprioception as field perception of the body can result in multiple modes of cross-modal sensing and orientation, multiple types of sensing of consistency in the surroundings, including the atmosphere. It can operate like a barometric sensor. When the body anticipates weather changes in traditional cultures, this is possibly grounded in *archē*-proprioceptions and shifts in the molecular composition and density of the body.

Our embodiment of norms is also proprioceptive. We learn to align and feel posture and gesture. The effects of subjection or domination are also proprioceptive movements and memories.

### 2.2.1 Listening to Proprioception (without Aiming to Control It)

Our being an embodied self, and our being able to inter- and intra-act in a world, is thanks to proprioception, even though we live in an era of proprioceptive atrophy. We live in a society of proprioceptive alienation and reduction. We have lost the sense of body. We have lost proprioception and its self-organizing richness. And yet it is always there, operating mostly in nonconscious spectrums, waiting to return full force!

This book is about listening to the body, from the inside, listening to our proprioception in very subtle ways. We all have, perhaps, a vague and underdeveloped sense of what it is to listen to the body. *Smartphone society* and *social control networks* devote little attention to it. I propose to radically deepen this listening and to take it further in creative ways, thereby opening up a sense of quantum indeterminacy at the core of our daily experience.[13] This is an urgent political task, in the midst of a dominant perceptual regime that is based on the reduction of this level of experience to near inexistence.

Listening to proprioception is a very active listening, in which you sense your own movement. It is about letting movement unfold in new ways, never subjecting it to rationalization, control, or full reflexive awareness, as the latter will impose predictions of the already known.

The body is always moving, swarming, and fluctuating, whether you want it to or not. This may come as a shock to people convinced of being Cartesian subjects in full control. The number of movements that relate to the willful decision of a subject are minuscule. If I had to rationalize every readjustment of posture to grab a glass, I would not be able to move. Grabbing the glass emerges within other fluc-

13 See Massumi (2002, 37) on the quantum aspect of daily experience as *objective indeterminacy*.

tuating movements that the body is performing, as I gesture in a conversation, or type at the computer, or look at the sky. These readjustments have emerged as self-organizing movements in molecular assemblages over 13.8 billion years of evolution. "Self-organizing" does not imply forming an organized structure. It rather implies emergence. The type of "emergence from preestablished rules" performed in AI contexts is, I think, a wrong account of emergence, since emergence can never be based on preestablished rules — or on rules at all, for that matter — but only on variations of fluctuation.

Self-reflexive awareness is a surface epiphenomenon of such self-organizing processes and can hinder them and become an obstacle to their self-organizing complexity if they try to take too much control. If you really want to explore the plasticity of your proprioception, you'd better resist the temptation to rationalize it. This will only block it.

The motto is don't block your proprioceptions! Let them unfold!

#### *2.2.1.1 Ontotherapy/Ontohacking/Cartesiholic Anonymous Exercise 1: Listening to Proprioception*

Now, pause for a moment as you read and listen to the tiny nebulous sensation of pressure in your back, bottom, hand, and feet on the chair, table, keyboard, and floor. Stay still for a moment and listen into the tiny microadjustments of posture that you feel through the subtle caress of the clothes on your skin, the fluctuations of tiny microtorsions and internal tensions and releases, how breathing feels in your tissue readjustments, as your posture fluctuates further. The vague sensations of internal movement, vague tensional and torsional zones that dance around the body, taking on consistency here and there, escaping your attempt to localize them. Take a few minutes to explore this. Don't try to capture it all. That's neither possible nor desirable. Fluctuations in the body go down to proteins and subatomic quantum fluctuations, and proprioception swarms up from it all! We only get a swarming micropolyphony and echo of this fluctuation. The more you listen without controlling it, the more the field becomes active, unfolding. A cosmic music that we always carry around, of infinite richness and potential.

Keep doing this throughout the reading of this book. Feel how it evolves.

This is the first of a series of exercises that may be particularly useful to people who are addicted to Cartesian beliefs of mind–body dualism and control. Hence the name "Cartesiholic Anonymous," a potential new global movement of group therapy for ontological addictions: an ontotherapy group.

> *To be inside the power of the body, fully present in the flesh, entangled with it, to the point where nothing more exists, where there is no longer a thought, a mind, but a moving body, an action of the body that no measure of consciousness can exceed,* [...] *this is the power of muscles, the sensation of their consistency.*
> — Nathalie Gassel (2000, 145, my translation)

### 2.3 BI and the Proprioceptive Swarm

This book proposes a radical redefinition of the body and the world as fluctuating field(s). We and our worlds are fluctuating fields entangled with one another while ontologically indeterminate and in never-ending variation, which, however, sometimes gets reduced. The proprioceptive swarm is our trope for rethinking the open

*Fig. 6. Anti-vitruvian metahuman:* the body as proprioceptive field is a swarming, amorphous field of forces, tensions, and torsions that never stabilises into a form, a sort of reversal of the Leonardo's humanistic icon of the Vitruvian man and its geometric form and movement.

consistency of bodies, and Body Intelligence (BI) is a means to rethink the plasticity in our dynamics.

The world is made of multiple proprioceptive fields reciprocally composing or reattuning their modes of fluctuation and oscillation. *The world is made of the entangled proprioceptions of fields.*

I propose that our nervous system and organism, emerging over eons from endlessly varied, self-organizing proprioceptive fields of movement in bacterial assemblages, still has this self-organizing movement capacity well beyond the chimerical and reductive centralized agency of a rational subject, which is grounded on reducing perception to fixed points of vision and movement to linear trajectories in a geometric space. I call this the *proprioceptive swarm.*

Trillions of emergent connections result in a body[14] as larger reason, irreducible to the linear geometries that have engendered the small algorithmic reason.[15] The body is a field of movement of infinite potential variations and in constant fluctuation. There is a *more-than-human amoeba in us.*

BI[16] is my name for the self-organizing, swarming movement capacity of a body, grounded on *archē*-proprioception, which I oppose to AI. BI is the body's capacity to recompose its field in endless self-organizing ways, in endlessly varied rhythms, always unfolding new capacities, and therewith capacities of the world to vary. BI emerges or swarms, unfolding from quantum fluctuations, along the evolutions of a universe. Proprioception is the dynamic playground of BI.

BI is a kinetic intelligence. Indeed, all intelligence is a question of movement, but movement conceived as field, not as trajectory!

BI is the broader field of endless possible kinds of movement dynamics, within which rational intelligence is perhaps the most reductive kind, whose core of pure logical reduction is epitomized by AI. It is what Nietzsche calls the great reason of the body, of which the small reason — spirit, soul, or mind — is just a part. This undoes the reason–instinct dichotomy created by human supremacy's claim for rational superiority.

Echoing the pre-Socratics, Nietzsche, and numerous researchers and philosophers of the past hundred years or so,[17] I want to claim that thinking and intelligence

14 It is for this reason that even an activity like walking cannot be adequately simulated through such a reduction, as is done mostly in three-dimensional film and videogame industry, since in walking there is also the endless variation of the swarms.

15 See "On the Despisers of the Body" in Nietzsche's (2006) *Thus Spoke Zarathustra* for the idea of the body as larger or great reason, and rationality or the soul as small reason.

16 I develop this theory since around 2017, see Del Val (2018b; 2020c; 2021b).

17 The question of where intelligence lies has been a controversial one at least since the notion of *nous* appeared in ancient Greece. In the pre-Socratics — and one could almost say universally in ancient cultures — there was an identification between movement and life, soul, or intellect. One could say that thought and intelligence were movement itself in its diverse manifestations. This is an idea that this book wants to recuperate, deepen, and radicalize in a way which is neither animism, panpsychism, nor materialism, but rather kineticism, indeterminism, and field thinking.

More precisely in relation to human intelligence, for ancient Greek philosophers like Anaxagoras, intelligence was in the hands (their movement!). For Aristotle, it was in the heart, orienting the movements of desire. Only for Alcmeon the Pythagorean was it located in the head and brain, a tradition that Plato picked up on and linked to the cosmological idea of circular motion as intelligent movement, down to the roundness of the head. Intelligence for Plato was thus in the head — not due to a yet inexistent Cartesian assumption, but because of the older identification of certain types of movement with higher modes of intelligence.

Nietzsche was bold in defending a greater reason of the body, of which the soul is but a small reason. After him, several dance and movement theorists, such as Mabel Todd (1937), have claimed the

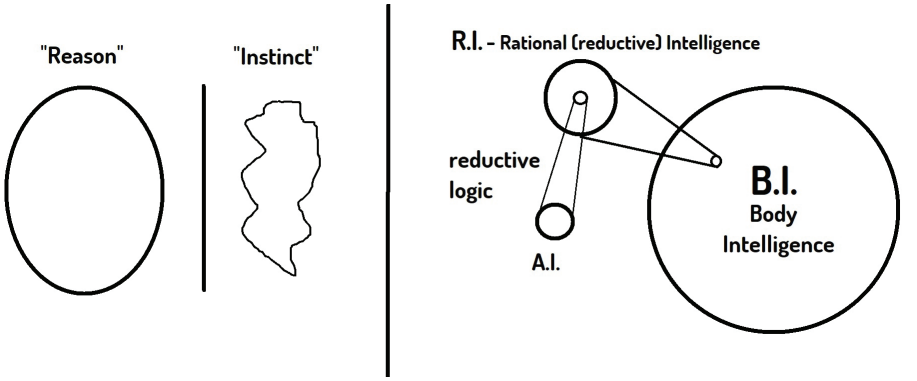



*Fig. 7.* The BI vs. reason–instinct diagram: showing rational intelligence as one of the endless modes of Body intelligence.

are always already of the body and of movement itself. But I want to expand on this idea to account for the endless modes of thinking available, of which logical reason is only one, and to claim intelligence as being higher when movements–bodies sustain plasticity, relational variation, and indeterminacy, thus reversing the traditional story that associates intelligence to a greater capacity to reduce and abstract, separate, and dominate.

Every body and metabody, every swarm and ecosystem has a BI. Asking how is the thinking and intelligence[18] of an ecosystem, a mountain (Leopold 1949), a forest (Kohn 2013), an ocean current, a tornado, a bacterial swarm (Margulis, Asikainen and Krumbein 2011), a virus, the heart (Holdrege 2002), the guts and its microbiome (Gershon 2019; Castellanos 2022), a fungal network (Sheldrake 2020), a slime mold (Shaviro 2015), a plant (Holdrege 2013), a medusa, an octupus (Godfrey-Smith 2018), a fish (Brown 2015), a cow (Colvin et al. 2017), a chicken (Marino 2017.), a pig (Marino and Colvin, Allen, and Marino 2015), any animal (Romanes 1882), an animal flock, a society, or a technical system (Hayles, 2015; 2017), implies inquiring into its modes of movement and perception, its modes of symbiosis and variation, its plasticity, and its contribution to the overall enriching of the expressions of life. There are more intelligences in the biosphere than species, because intelligence is in-between, in the complex relational webs of ecosystems. There are billions or trillions of intelligences on Earth. They are not separate or independent expressions of life's intelligence, but interconnected both in evolutionary and ecosystemic ways. As I will expose in Book 4, biochemical modes of energy transduction (metabolism) have unfolded as planetary fields[19] constituting the diverse kingdoms of life. The biochemical field of

*thinking of the body*, which means also thinking in motion and as movement. More generally, in dance and somatic practices, the idea of an intelligence of the body is not entirely alien, and in relation to health or to common sense it is usual to hear that the body "knows": that one should listen to it.

The idea that the body thinks in excess of rationality, manifested in the myriad activities that the body performs without recourse to rationality, is being dealt with by a number of authors, whereas in many disciplines, studies about the intelligence, thought, or cognition of forests, octopuses, slime molds, bacterial colonies, or swarms abound. Arguably, following Steven Shaviro (2015, 193), slime molds provide us with the model for an *archē*-thinking. However, I think this *archē*-thinking is grounded on an *archē*-proprioception, that is, on how movement self-organizes in rhythmic fields of energy transduction and growth, expressing fluctuation's will-to-variation.

18 There is a multitude of fast growing scientific literature on these subjects, see a selection in Pigem (2016).

19 See Margulis and Sagan (1986a, 149) and Nail (2021, 186) on such evolutionary unfoldings across kingdoms of life, where bacterial, or plant modes of energy transduction evolve into animal bodies with nervous system.

energy transformation is the trope underlying all modes. Their fundamental operation is the proprioceptive swarm as fluctuating, self-sensing matrix of which our bodies are just one expression.

BI links theories of radical embodied cognition to the multiple emerging theories about the cognition and intelligence of all life forms, to deep ecology and the understanding of relations in ecosystems, as well as to neurodiversity and non-rationalist modes of thought in indigenous cultures, or in any culture and person for that matter, and even to a rethinking of technics, as Body Technics (BT). BI proposes an ontological redefinition of bodies, sentience, thinking, and intelligence that integrates all the above. Furthermore, as field intelligence, it opens up the way to redefining life, health, ethics, ecology, rights, and justice beyond pathocentrism, grounding them instead on an affirmative evolutionary principle of indeterminacy and diversification.

Considering the multitude of processes that the body performs both in the spectrum of conscious activities, like the arts, and in its nonconscious processes, we can affirm that the body thinks mostly in excess of rationality. Its creativity arguably depends on its capacity to exceed the reductive thrust of rational thought. What we need is to understand *the diverse internal dynamics of proprioception as modes of thinking in themselves* and *the intelligence of fields as the measure of their plasticity.*

The internal changes of relations of a body's limbs are not only of the 360 joints, but of all the tissues in-between them, down to cells, molecules, or atoms. More importantly, every combination is already a quality of tensions and torsions, and is ontologically *indeterminate, holding together multiple unresolved tensional states.* Our proprioception and its BI are the source of a qualitative and not quantitative, thus far greater, infinite richness in movement and experience. The body is a multifaceted tensional vortex of torsions inside torsions and across torsions. A tensional field of fluctuating stretches and spirals.

AI developed from the will to mimic a reductive model of rational intelligence based on linear thinking, abstract symbol manipulation, and problem-solving, creating a self-referential loop, which double-folds an initial reduction: that logocentric linear thinking is the model for all thinking.

Algorithms are indeed a part of nature, but only as a reductive expression of it. Artificiality is the reductive tendency to control and to self-replicate. Francis Barker (1984) exposed how artificiality has haunted the construction of the humanist subject from its beginning. Rational intelligence, in this sense, has been artificial and anomalous right from the start.

Instead, BI implies elaborating the Nietzschean concepts of the *great reason of the body* and of *great health* as the capacity to sustain multiple forces, multiple contradictions, and multiple tendencies in the field that one is. It implies bringing back and taking further our swarming movement in excess of reductive reason.

### 2.3.1 The Five Levels of the Proprioceptive Field: For a Radical Movement Freedom

As a provisional way of thinking the complexity of the proprioceptive field, of which displacements are just a minimal part, I propose to conceptualize it in terms of five layers:

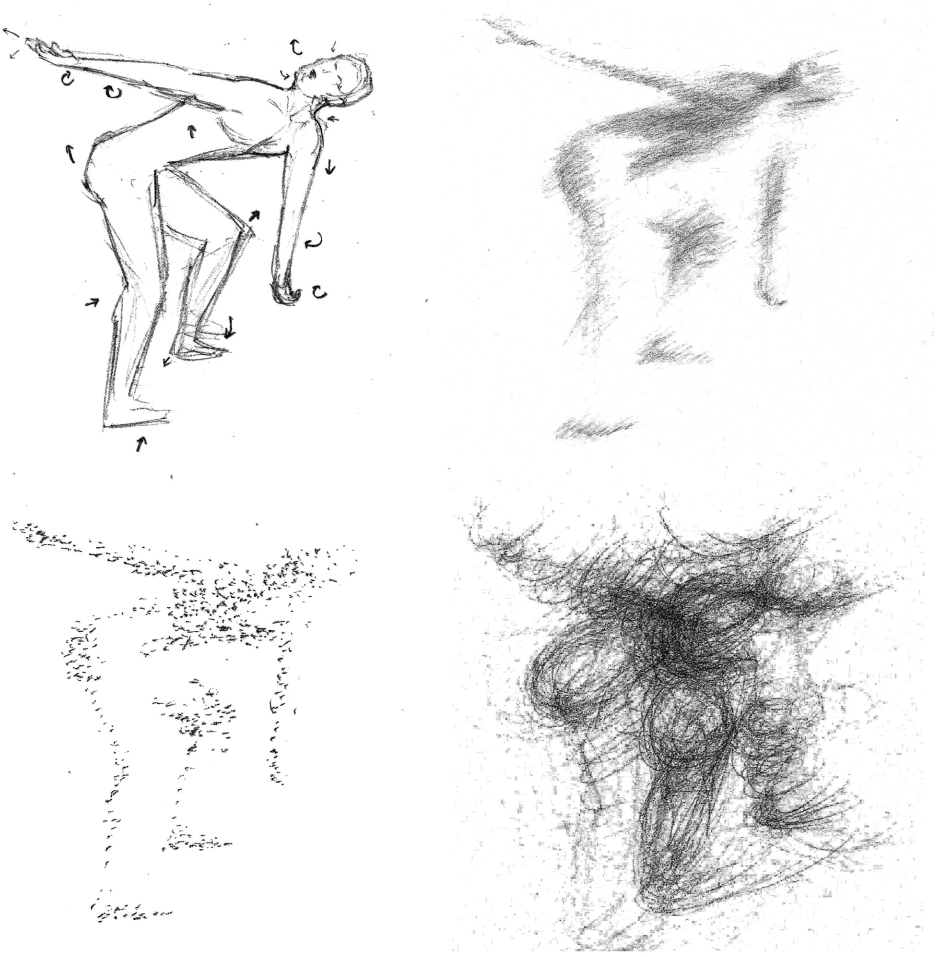


*Fig. 8.* The body as proprioceptive swarm: top left, we see a traditional drawing of a body outlining some of its tensional–torsional dynamics. In top right, a blurry depiction of how tensions may feel in that fluctuating posture. In bottom left, the same but designed in the manner of a swarming sensation. In bottom right, we see more the larger field of vortical dynamics, not unlike in some works of Umberto Boccioni.

1. the fluctuations of the body in presumed stillness, which imply a whole microcosmos of different movements, such as molecular and metabolic movements, reflexes, breathing, heartbeat, arousal, and many others, down to quantum fluctuations, of which we can feel an overall murmuring effect and a constant readjustment of posture;
2. the modulations of tension and torsion we can explore in the endless combinatory of our joints, without accelerations. This is the core, amoeba-like, tensional field of proprioception. It can be unleashed by listening to the first layer and letting it expand. From it, counterpoints of simultaneous microaccelerations and gestures may be emerging, which start to "space out" the flock of joints in potential multiple vectors without displacement;

3. the vectors of displacement emerging from, accompanied by, and further expanding all the previous fluctuations, wherein occasionally one vector dominates resulting in a displacement but always accompanied by all the other layers;
4. the relations of all the above with endless types of expanded movement fields in relation to other bodies, technological systems, architectures, objects, cities, and other macro- and microcosms of larger flocks of which they are always a part, to which a body may tend, or whose movements may affect the body in various ways;
5. the complex qualities, fields, and transmodal relations that emerge as these movements compose affects, memories, thoughts, knowledges, and capacities to relate in the entanglement of proprioceptors, neurons and brains, metabolism and other fields of the body, and in relation to their expanded ecosystems, their relational fields.

This allows us to radically *rethink movement freedom:* not just as mobility through spaces, but as capacity to reconfigure the proprioceptive field and multisensory integration,[20] while mobility through space is reconceived as the reconfiguration of larger fields.

More importantly, it's not the complexity of these scales that matters, but the endless variety of *qualitative modes* emerging from them, that is, the particular rhythms and intensities that account for the infinite and changing qualities of our affects and experience, as well as their vitality or openness, and their depth of resonance, memory, and sustainability.

## 2.4 Metaception as *(An)archē*-Proprioception

I build upon Lynn Margulis's and Dorion Sagan's proposal for the possible symbiogenetic evolution of brain microtubules from bacterial mobility systems, or undulipodia (1986a, 149). They also expose the self-organizing, decentralized, spatiokinetic nature of thought as an inheritance from the self-organizing and orgiastic bacterial assemblages from which our nervous system and brain stem! This crucial theory needs to be highlighted as one of the most revolutionary proposals within the larger turn that I call the "Margulian Revolution."

As has also already been claimed by philosopher Maxine Sheets-Johnstone, proprioception precedes the other senses in evolution (2011, 90).[21] I further propose that it is also a primary evolutionary mechanism, as the mode of sensing proper to fields, and the offspring of 4 billion years of self-organizing bacterial recombination.[22]

20 Before the Covid-19 pandemic started, I was about to start doing workshops on this type of movement freedom in prisons in Lima. Then the pandemic came and I started doing online workshops for people in lockdown all over the planet.

21 See also my mention of Sheets-Johnstone's work in Book 7, her claim for the primacy of proprioception, and her denouncement of how it has been ignored. She elaborates on the evolutionary primacy of proprioception, proposing the idea of a protoproprioception, building, amongst others, upon biologist M.S. Laverack (1976), that proprioceptors evolved from the exterior to the interior of the body.

22 For a different but complementary account of how the planetary-scale field of biochemical paths of plants evolved into the nervous system of animals, see Nail (2021, 186): "The animal body thus began to make its own body out of plant-like electrochemical communication structures, which evolved prior to animal nervous systems. [...] The animal is like a swarm of plants — like a whole forest ecology filled with electro-communicating roots, stems, and leaves. Vegetality turned the whole earth

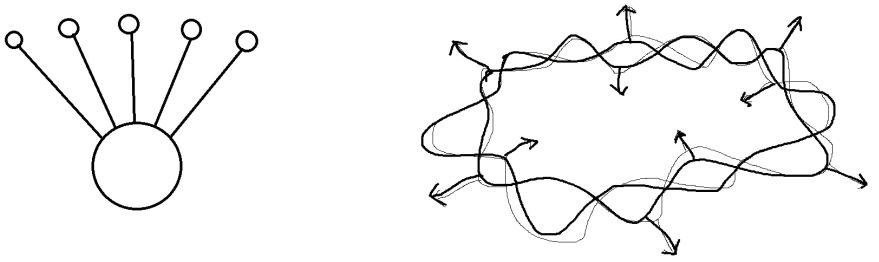


*Fig. 9.* On the left, the currently dominant five senses model, where the brain acts as central "computer" processing data vs., on the right, a decentralized proprioceptive matrix sensing its fluctuations and the world through it, maintaining relations in variation with all other senses as extensions and the brain as part of it, not the reverse.

I also propose that a symbiogenetic field conception of the nervous system and its associated brain allows to completely bypass the brain-centered and anthropocentric ideas of consciousness or the mind, in exposing *a body's self-organizing and indeterminate power of variation in movement.*

Feeling others and the world through one's own shifts in force distribution can be seen in molecular, bacterial, and cellular processes and assemblages, some of them later evolving into tissues and organisms. I call this process *(an)archē*-proprioception, as the primordial kind of perception evolving in molecular or bacterial assemblages, cells, and protists (such as slime molds) over 4 billion years of evolution.

I argue that for a body–field to exist, some kind of proprioception must happen, and inversely, that wherever there is proprioception, there is a (meta)body. Proprioception allows us to think of the body as emerging bottom-up from complex, nonlinear, molecular swarms of microperceptions (rhythms, orientations, and contacts) as distributions of energy density. Within these fields, harder alignments may also appear. I reconceptualize the body through proprioception, thus opposing mechanistic metaphors. A body is defined by proprioception, and proprioception is defined as a field of energy density distributions holding together as an open whole.

At the most fundamental level, one can say that fields hold together by maintaining, with variations, distributions of energy density. This implies a primordial sensing of energy density or force distributions that fluctuate both internally and in relation to other fields. This is *archē*-proprioception.[23] It is the primordial means of consistency of fields enfolding from fluctuations and the *sense of fluctuation* in fields.

This can be understood in terms of the rhythmic attunement of oscillations that form the chemical, electromagnetic field itself, for instance in a metabolic process.

into a brain — sharing electrochemical signals through the ground, water, and air. In this sense, the animal is not some discrete being that emerged on the surface of the earth but is rather merely a region of a much larger terrestrial 'nervous system.' The animal is thus a continuation or extension of the nervous structure already present in the earth itself."

23 My accounts of the proprioceptive swarm and *archē*-proprioception resonate strongly with Thomas Hanna's concept of *archesoma*. The archesoma involves both the question of evolutionary heritage, which he develops based on the research of Jean Ayres, and the self-organizing nature of it. Hanna's somatics is indeed entirely based on a claim of the soma as the body sensed from within, through proprioception and an integrative approach to sensorimotor activity. See Book 7 expanding on Hanna's concept and on the ways in which I diverge, as to me the *archesoma* is the source for a postrationalist force that can help us overcome the humanistic biases that are unleashing a mass extinction.

Chemical bonds and reactions, across organic and inorganic matter and in our entire bodily chemistry, including thoughts and emotions, are an issue of electromagnetic oscillations creating unfathomably complex, fluctuating, consistent, and open fields throughout evolution.

The field senses chemical signals as potential extensions that allow it to sustain itself or grow, or as chemical gradients that may damage its molecular composition. Reductive or centralized self-reflexivity is unnecessary here and would only hinder the fine-grained and distributed intrasensing of fluctuating force distributions. But this *archē* — archaic and primordial sense or principle, as mode of sensing proper to fields — is also *anarchē,* that is, possessing no origin or hierarchy, as it is the way quantum fluctuations field forth in variation, in this or any universe. I will from now on use indistinctly the prefixes *archē-*, *anarchē-* and *(an)archē-*, playing with this ambiguity.

Nonorganic molecular compositions could also be said to display *anarchē*-proprioception, for instance, wherever a molecular field holds together through bonds or force distributions of some kind or other. But as Gilbert Simondon suggests,[24] there are differences there, insofar as organic fields (such as the living cell) have a dynamic of internal resonance, whereas inorganic fields (such as a tornado or a crystal) define their thresholds more in relation to density thresholds with neighbouring fields.

*Archē*-proprioception acquires endless modalities as the universe unfolds from quantum fluctuations, in which any differential of energy density may constitute a microcosmos or process within which further fluctuations proliferate. This is the source of consistency and variation in a universe. Atmospheric phenomena that condense and dissipate, or even gravitational condensation, are some of the expressions of nonorganic *archē*-proprioception, down to the fundamental physical fields, subatomic string vibrations and bonds, or atoms holding together through strong interactions in the nucleus, decaying through weak interactions, and recomposing through electromagnetic changes in their electron clouds. An atom, like a solar system, is already a complex field of fluctuations holding together.

Evolution could be described as the variation and extrusion of *archē*-proprioception, as fields acquire increasing complexity. As new kinds of fields–bodies unfold, new senses appear as extensions of the *archē*-proprioceptive matrix. This includes our external senses, our *exteroceptive field.* This extrusion can happen in many ways: in the undulipodia of bacteria, which are extensions not only for reaching out, sensing, and self-propelling in the flows and turbulences of watery environments but also for clinging onto rigid surfaces[25]; in how amoeboid slimes ooze, reaching out with tendrils and leaving traces while internally communicating through chemical oscillators; in how the cell seems to maintain an optimal balance of consistency and openness through its cytoskeleton, made of folding proteins building filaments and microtubules, which allows a cell to hold together, contract, and sense its surround-

24 See, for instance, the introduction in Simondon (2005).

25 A crucial inflection toward gridded extrusions may have come in how undulipodia seem to have evolved into microtubules of the brain and nervous system of animals, invertebrates, insects, and vertebrates of increasingly centralized coordination, allowing movements of displacement and developing exteroceptive senses and proprioception in a strict sense.

ing by applying force; in the growth and extensions of fungi; in the circumnutation[26] of plants, which is linked to growth without displacement.

Further variations of *archē*-proprioception can be seen in how swarms of insects form swarming architectures and societies; in how the articulate movements of hands, limbs, and neurons in the *sapiens* become extruded in tools conforming architectures while increasing focus on exteroception appeared; in how some of these architectures evolved into increasingly gridded and geometric alignments, culminating in linear perspective, focusing on vision at a distance; and then into the gridded infrastructures of planetary-scale computation systems with billions of sensors multiplying points of vision, where autonomous algorithms sense emergent correlations.

*Archē*-proprioception, folding inward (endoproprioception), developed the entire proprio- and interoceptive fields as defined by Sherrington, and organisms at large. Reaching outward (exoproprioception), it created the exteroceptive senses and their technical extrusions, which could be seen as part of the exteroceptive field.

But this is not a linear evolution or progress. Indeed, it is that excessive extrusion, which goes along with segmentation and abstraction, that implies a reduction of plasticity in the (*archē*-)proprioceptive field. This reduction implies a domination which diminishes the movement of variation in evolution. The cell, in exposing an optimal balance, seems to have a higher intelligence. Growth itself might be the most complex enfolding of *archē*-proprioception, with slime molds seeming to present the most plastic kind of body in-between growth, extension, and displacement. Bacterial colonies are the high point and core matrix of plastic evolution, due to their mutation power through viral transduction and bacterial sex. Most animals seem to sustain a balance of consistency and openness, with each species expressing multitudes of variations of movement composing symbiotic fields.

It's in the *sapiens* where the involution seems to have happened most radically. Increasing and systemic movement atrophy, due to extrusion in technical environments, has afforded the dominance of reductive abstractions. Involution here is meant in a fully negative sense: a reactive fold in evolution.

The more the body became distinct, with articulate motion capacities, the more its proprioception was extruded. Cultural systems denote a new threshold in proprioceptive extrusion to technical and architectural systems, and to language and other practices. Western technologies of rationalization and their provisional expansion in planetary-scale computation systems are, so far, the most radical and problematic extrusion and abstraction of proprioceptive systems.

## 2.5 The Extended Proprioceptive/Metaceptive Field

### 2.5.1 Transmodal Continuums: Always More Than Five

Sensing never happens in a single sensory modality. Every experience is always a complex and changing process of multisensory integration. Beyond the five Aristotelian exteroceptive senses (sight, hearing, touch, smell, and taste), proprioception, equilibrium (with kinaesthesia as the overall sense of movement), temperature, humidity, pain, acceleration (gravity), and the sense of pure speed (vection) (Berthoz

26 Circumnutation is the movement of the growing tips of plants. Darwin did a prodigious survey of the extreme variety of circumnutation movements in his book *The Power of Movements in Plants* (2009).

2000, 52), there are many more than five senses. Accounts vary, ranging between fifteen and thirty-three or more, including several *interoceptive* senses (hunger, breathing, gastrointestinal senses, amongst others), and even more complex senses of time, agency, or familiarity.

Some of the so-called five senses are already a complex hybrid of many. An example is taste, which involves different glands for different types of flavors, and the trigeminal nerve for sensations of temperature or pain. But this is also true for tactile sensors of texture or the olfactive sensors, divided between the orthonasal and retronasal systems for outer or inner smell, the latter deeply connected to taste.

Sherrington described the nervous system as a metafield composed of three major fields: the exteroceptive, proprioceptive, and interoceptive fields. All three are part of a larger integrative function of the nervous system. What this crucially implies is that perception can never be reduced to a particular way of functioning. Its essence is plasticity itself, integration, and trans- and metamodality. I thus want to strongly denounce and oppose any attempt in the sciences to "describe" the "structural form" or "operation" of perception, or of the brain. Whatever these "cognitive structures" speak of will never be the body as an essentially plastic field, but its narrowing as it comes up in certain reductive and dominant conditions.

The crucial issue is how senses operate, always in changing alliances. I call this the *transmodal sensory continuum.*

Berthoz (2000, 263) questions the traditional sensory divisions and proposes to study every experience in terms of transmodal combinations, case by case: how does holding a glass and drinking from it present a unique combination of touch,[27] pressure, temperature, humidity, tilting, proxemics, smell, taste, vision, and hearing? Every experience is a unique and changing integration of sensing modalities coming together in proprioception, creating the fluctuating, rhythmic flow of our experience.

Let's consider the example of how I grasp the texture of bread in the shop every morning, to see how fresh or consistent it is, as a multisensory integration process. What is involved is not just proprioception as a "muscular–articular" sense. There is an entanglement of touch and proprioception, along with sight, smell, or sound, through this act in which the bread becomes part of my internal sense of movement, of my *self* as dynamic and open-ended capacity to move and sense, and of the world as dynamic playground. And when I eat the bread, proprioception will integrate its taste and further interoceptive sensations in the throat and stomach, and so forth.

What I claim is the need to enact or bring back a plastic capacity for multisensory integration by regaining a plastic proprioceptive field.

…

But there is an even deeper sense of *transmodality* operating across the above and involving the following strata:

— mechanical sensing and mechanotransduction, that is, outside world impulses and muscular movement that get transduced to the nervous system's impulses;

27 A lot of work has been done claiming touch or hearing in response to the predominance of vision. My take is different in that I don't claim to substitute vision by any other single sense. Though I focus on proprioception, I consider it a site for a *more plastic multisensory integration.*

— electric transduction, that is, in-between, nervous system and brain, proprioception, and thought, mediating between the other two; and
— biochemical, that is, internal, cells, metabolism, molecules, DNA, proteins, hormones, etc.

And, lastly, modes also refer to the specific and always new *qualities* appearing in the mix of all the above, that is, the emotional states, the intensities and the ecstasies, which imply connections between extero-intero-proprioceptive stimuli creating new memories, recomposing older ones with the new experiences. Every situation and experience is a novel combination of the senses unfolding in variation, and of our power to recompose with them, always on the move, irreducible to cuts. We have with us the most powerful tool for an art of life as ever richer experience, which is the moving–sensing body and extraordinary, rich environments to explore once we are again gatherers living in nonbuilt environments. But the deadly angles of urban living tend to enclose us in anaesthetized loops, addicted to the lures of perspectival media.

#### *2.5.1.1 A Flock of 360 Joints; or, How Many Bodies Do We Have?*

As a starting point, think of yourself as a flock of 360 joints capable of infinite configurations, internally and in relation to the world, whose state is always fluctuation, always holding multiple unresolved states. This is the ontological indeterminacy of a body as movement field, an expression of quantum fluctuation, and therein lies its force of cosmological, evolutionary, and creative variation.

As you move, you "flock" with your everyday surroundings. Your swarm of 360 joints expands and composes in ever different rhythms, orientations, contacts, and distances in relation to the world, creating rhythmic fields of movement relations.

With your neighborhood you create a peculiar flock, a field of relationships, intensities, modes of attention, rhythms, orientations, and distances, vitality, and memories embodied in your daily experience as you weave your relationships with the neighborhood, your neighbors, the parks, and architectures. This flock, this field that you create will be different from the one created by any other person, because it emerges from quantum fluctuations in all your tissues, and from more or less plastic neural synapses that your peculiar movements have been creating in your brain, your habits of movement and perception.

It is as if your body is itself a swarm, a flock, an expanded field of relations that moves with you. In each situation it will be different. With each room in your house your body flocks in different ways. In the kitchen, in the living room, in the office, in the bedroom, in the bathroom. Each room is a diverse field of movement relations, attention, and rhythms, a metabody. And if you live with other humans or nonhumans, you will see that each of them flocks differently, creates different movement relations, different spaces in what looks like the same space, hence the conflicts that often arise.

We can think of our daily interaction with things as if we carried a flock around us and within us, expanding in our surroundings. Imagine it as a mobile relational field. Some aspects will be more frozen, others more mobile, but you are constantly creating and cocreating the field with others. In turn, the "internal" flock is not a closed whole with a unified agency. Its agencies are multiple and emerging with the larger "external" flock. Other bodies constantly enter and exit the flock, the spaces, and objects you relate to.

Consider your movement relations in your house. In a typical WEIRD house, there will be rooms, each of them a field, defined by a type of flocking. In the kitchen, the field is surprisingly rich and multisensory, with a broader proprioceptive spectrum. In the office, the field is superaligned and extruded in planetary-scale computation systems. On the sofa, you align with the TV, while perhaps disaligning posture. In the bedroom, there are more occasions for disalignments in sleeping or sex — hence its separate status. The bathroom, in turn, is another biopolitical enclosure for the body, where it is allowed to disalign and feel itself while aligning to the mirror, the body image, and biopolitics of hygiene and appearance, as it gets ready to go out into the world. In every room we create a field of movement relations, of expanded proprioceptions. Other people living in the same house will have quite different fields coexisting with ours, which often leads to conflict. Every field webs across affordances of various kinds. Some provide more degrees of freedom, while others impose a rigid orientation. Cleaning the house or ordering and moving around its affordances are occasions to propriocept it differently, to open up the field. Moving out of a house where one has lived for a long time is a privileged occasion for deepening the encrusted layers of a metabody, which are always deeply affective, mobilizing them, transposing them.

The fields go deep down into your own proprioceptive field, entangled with your intero- an exteroceptive field, with your entire nervous system and brain, with your metabolism and body chemistry. It is all in motion and will actually mutate if substantially new qualitative variations in movement and multisensory integration appear.

The idea that there is a single homogeneous space, which comes from mechanism, from Isaac Newton and René Descartes, is a great chimera that erodes the plurality of spaces of movement that we create from the body and between bodies. What we call space is an amalgam of flocks, expanded bodies, metabodies, each with its different rhythms, but intertwining with each other.

In the relationship with another person, in your work, in each situation flocking metabodies are created, fields with peculiar intensities, affects, qualities, memories, and varying openness or potential. Here, we expand the body–flock concept as a transmodal field of mutation. The question is: unlock your flock!... to plastic becomings with all nonhuman and human others.

### 2.5.2 Further Expanding *(An)archē*-Proprioception

As exposed by Lucy Vincent, movement affects, connects, and sets in motion the three communication fields of the body: the nervous system, the immune system, and the endocrine system (2020, 110, 114). Meanwhile, the body has much older internal communication mechanisms than the nervous system, such as the delta fibers. All of these are crucial in our conceptualization of an expanded account of the *archē*-proprioceptive field well beyond traditional accounts of the nervous system.

Muscles are themselves the largest endocrine glandules in the body. Movement generates myokines that orchestrate the immune system and many other functions, setting in motion chemical messengers and exchanges between different organs (107).

Movement's immunological functions improve organ functioning and have anti-inflammatory effects, being used in some traditions of medicine for cure (121). Besides enhancing seduction, movement improves reproductive functions, digestion, and bones amongst many other things (154), and has a strong rejuvenating

effect (134). It generates endorphins, dopamine, oxytocin, growth hormone, testosterone, an entire rejuvenating cocktail.

One can modulate hormones and the entire biochemistry of the body by moving. Every small muscle contraction is hugely effective for this (13). The important thing is not quantity or effort but variation and quality, the smallest movements are more effective. "The more we move away from our habitual positions and gestures, the more we will provoke new crossovers and influences" (36). Echoing Vincent, I propose that varied movement can mobilize hormonal plasticity and immune plasticity.

The relationship between the immune system and the nervous and endocrine systems is studied by psycho-neuro-endocrinology, which studies, amongst others, how stress makes us sick by generating excess substances in the body, including effects like cancer (111).

By regularly stimulating muscles throughout the body one can promote a balance of all bodily functions (108).

Vincent claims how dancing has positive effects for neurodegenerative diseases, increases neuroplasticity, brain mass, and intelligence, emotional and cognitive plasticity, improves self-affirmation and self-awareness and connection with and understanding of others, improving capacity for action with the world.

There is an emergent understanding of the role of the mysterious and complex cerebellum connecting movements with moods, memories, knowledge, and much more. The cerebellum has 69,000 neurons, more than any other brain part, and it has the function of creating relationships both for movement and sensations and for conceptual or emotional thought. Its function is to create relations, showing how the sensorimotor system and the cognitive and emotional functions have similar relational operations, grounded in the cerebellum and intricately linked to movement. Each new movement creates new neural circuits in the cerebellum (47). Dancing creates brain matter and neural growth via hormones. Vincent hence claims that "if we remain immobile we stifle our brain potential" (34).

Movement is thus central to all communication systems of the body and one could say that it is prior to them in evolutionary terms. "If evolution invented the brain, it's in the first place to manage body movemenst and organ coordination" (22). But so it is in embryo development. The twitches of the embryo in the uterus have the purpose of forming the nervous system, whereby 40,000 synapses are triggered per second. Children's fidgets have a similar function and should never be forbidden.

The delta fibers are ancient evolutionary parts of the body's deep self-awareness that send multiple informations on states of the body to the brain. A and C delta fibers or slow fibers, which include afferents and nociceptors, are older than nerves, and transmit information on oxygen, dioxide, glucose, glutamate, serotonin, histonin, temperature, wear, irritation, blood flow, or cell death (151).

Vincent exposes the decentralized functioning of reciprocal influences between movement and thought, where the brain does not direct. Both are an integrated whole with many nonhierarchical reciprocal loops. For instance, many thoughts are based on kinaesthetic metaphors, while thoughts can affect movement. Mirror neurons are part of this mechanism.

Other aspects of the expanded self-sensing, self-moving field of the body lie in the complex nervous system of the guts or the heart (Pigem 2016), and their complex relation with the microbiome. The latter further expands our conception of the expanded proprioceptive field to current research on the intelligence and communication modes of of bacterial or viral swarms, of animals with and without nervous

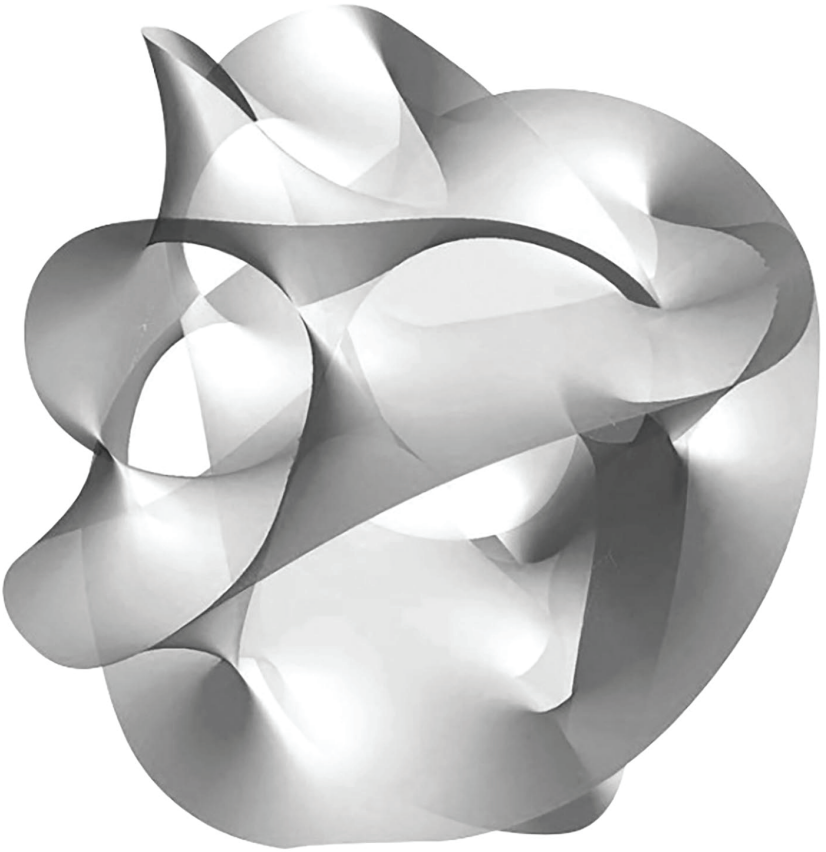


*Fig. 10. n*-dimensional Calabi-Yau manifold. Source: Wikimedia Commons. The body as proprioceptive field arguably looks/feels more like a Calabi-Yau manifold where dimensions of tension and torsion twist internally and dynamically without defined inside and outside. This figure is reminiscent of works by Lygia Clark or Iannis Xenakis as well as William Forsythe's *Motion Bank,* in which software analyzes movement in space, creating space.

system, of plants, fungi, protists (such as slime molds, which we discuss in Book 4), or the dynamics of ecosystems, for instance an entire forest as metabolic assemblage. Since biochemical and neural–mechanical modes profoundly interrelate, binding the cellular and microbial levels to the nervous, muscular, and sensory levels, as well as across all the multiple cognitive and affective levels, the self-sensing and self-moving field of the body traverses all of these modes, expanding beyond usual conceptions of individual bodies into ecosystemic relations, particularly of the microbial–viral kind. Science is barely starting to grasp this complexity.

The communicative strata of the body are the same as those of the biosphere: biochemical, neuronal, and sensorimotor. In the biosphere, all microorganisms and most organisms, such as plants, fungi, or protists, communicate through biochemical sensing. Senses like olfaction and taste in animals are an evolution of that. Organisms with nervous system, proprioception, and exteroception add a new stratum of communication through proprioception, tactility, visual gestures, and sounds, communicating to the biochemical stratum via the nervous system. All strata are

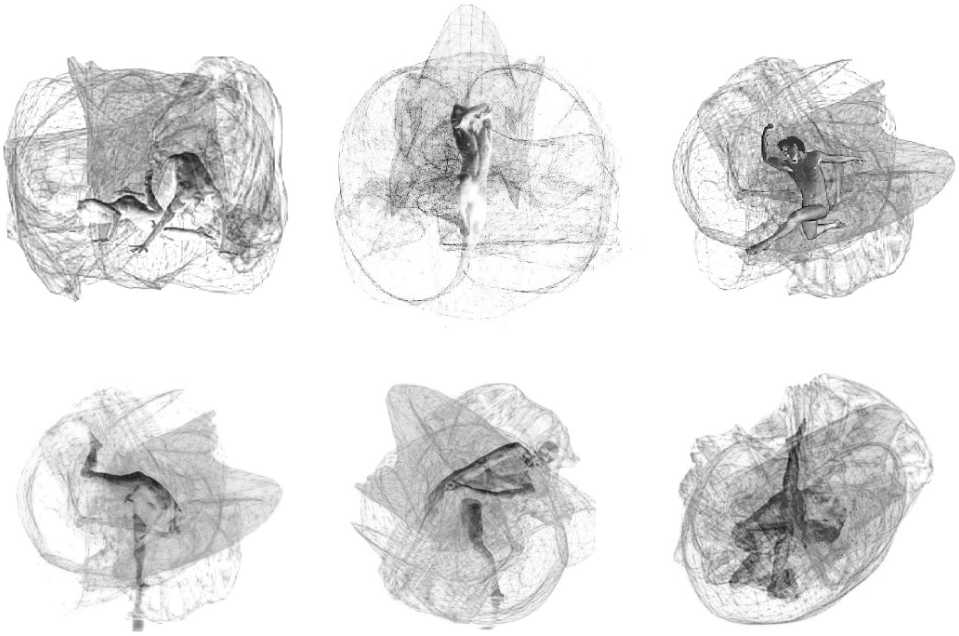


*Fig. 11.* Metabody protoypes/simulations by Jaime del Val, 2013: a body creating its own formless, *n*-dimensional, torsional spacetime through movement.

related and entangled, both in the body and in the biosphere's ecosystems, both as symbiogenetic evolutionary history and as actual current functioning of bodies and ecosystems.

The key is not in understanding how things work under a given configuration in order to stagnate it, rather it is about understanding the key role of indeterminate variation in motion, which implies free movement of molecules, microbes, viruses, animals, seeds, and flows, mutually varying and co-evolving. This underlies natural plague control and other ecosystem health parameters as well as regeneration of water, air, or soil as we will see in Book 4 on metabiosis. We will now take further this entanglement of body and environment.

### 2.5.3 Environments as Entangled Proprioceptions

*To embody something is to make it part of a proprioception.* When I relate to an object, *that object becomes part of my proprioception.*[28] I create a field of internal dynamics and relations with it that is not based on the three Cartesian axes, but on particular torsions in movement. Torsion is the fundamental movement of proprioception in elastic bodies like ours, made of folding proteins. Polytorsion is our fundamental fluctuating and elastic state, as we relate to multiple affordances, always reaching out in many simultaneous directions, composing tensional metabodies–fields–flocks of expanded proprioceptions. An object is never as split from us as Cartesianism would have it. Irreducible to topology, the moving body is more like a Calabi-Yau

28 The idea of proprioceptive entanglement radicalizes theories of *The Extended Mind* (Clark and Chalmers 1998) by placing any process related to so-called cognition, mind, or consciousness in movement relations forming proprioceptive fields.

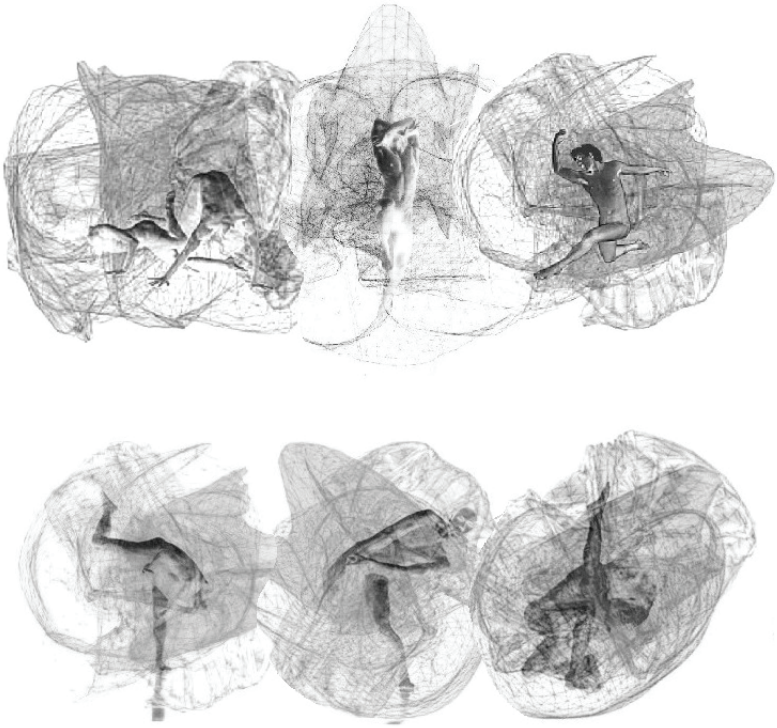


*Fig. 12.* Similar to fig. 11 but with the metakinespheres of each body entangled with those of the others.

manifold (fig. 10), rather than a set of points moving in a geometric Cartesian space, that is, a torsional field of *n*-internal twisting dimensions, metafractally entangled with other *n*-dimensional manifolds in swarming manner (fig. 11). A body is its metakinesphere, its twisting field of movement that can get entangled with other bodies' fields (fig. 12).

When someone or something becomes part of our proprioception, we can resonate with, empathize, and become attuned to them. The lives and bodies of others matter to us as long as they are proprioceptively alive inside us. *Empathy is all about proprioceptive attunement.* When you resonate across my proprioception, a new resonance or dissonance appears, a new timbre is created, and you transduct like waves across my proprioception, and you transform the molecular composition of my tissues and its memory, you matter to or in me. When something or someone is alienated from my proprioception, framed at a distance, it stops mattering, stops transducting, or does so in a very inconsistent, or excessively consistent way, maybe imposing itself.

This is an overall schema for understanding how we relate to things and how we embody them. When I drive a car, I integrate it in my proprioception, since I feel it through my tissue deformations in moving in relation to it. *I feel expanded in the car.* The body is always expanding in the world through proprioception. But I also align my proprioception with the car: I have to align to its mechanical schema. My proprioception extrudes as mechanical extension along particular alignments that reduce my movement potentials. The pleasure one experiences in driving also has a proprioceptive ground. In feeling the changing speeds relating to my muscular

connection with the car's steering wheel, the pedals, and pulls from acceleration and gravity, but also to the wind, the landscape, the sounds, and other multisensory inputs that are part of our expanded proprioception in motion. A strange mixture of expansion and reduction. Power of variation vs. domination. The line is sometimes thin. It can flip-flop any instant.

We can reconceptualize any activity as proprioceptive field. Inversely, every activity is a particular but open-ended proprioceptive configuration, that is, a field sensing.[29]

Some of these configurations are more open or reductive than others. When I type on the computer, proprioception narrows down dramatically, even more than driving a car, as I have there both the alignment of fixed vision in relation to the screen, and the discrete proprioceptions of clicking on the keyboard's gridded affordance, imposing on gesture the ultimate binary reduction: an on–off which opaque algorithms can reorient.

Viral phenomena in mass media and social media are grounded on this narrowing, which gets propriocepted and deeply internalized. This proprioceptive transduction is what underlies our "embodiment" of technologies, media, or norms.[30] The degree of richness of proprioceptive integration should thus be a key criterion for a politics of perception and media.

The fixed point of vision splits bodies, framing them at a distance. Our society of screens and fixed points of vision is a means of controlled reconnection of the already split body–subject[31] and operates on the reduction of proprioceptive indeterminacy, which means it still operates through proprioception.[32] The subject appeared as a result of freezing movement–perception in the fixed point of vision and *dissociating the observer from proprioception. The autonomous subject is an effect of proprioceptive alienation and atrophy*. It's then ready for further segmentation in what Deleuze (1992) called the dividual: ready to become food for dynamic algorithms.

All this happens along different degrees and modes of integration. Clicking on interfaces implies a poor proprioception, so different from hugging someone. A blind person's cane, or a dildo, is less richly integrated, and has perhaps less degrees of movement freedom than your own limbs, which are full of nervous extensions and tissues. This is not necessarily a claim for a "natural" or "biological" body, but a way of challenging the presumed superiority of particular technologies. Proprioception offers an account of how our relations to others, our environments, and any

29 For instance, painting is a complex proprioceptive act in which the painting's intelligence comes up in the subtlety of the accumulated gestures, the immediacy of the proprioceptive relation, the going back and forth, and the temporalities in which a relational field comes up in and as movement, not just inside the canvas but in the larger field of movements of painting that acquire consistency in the painting itself as field.

The unique tone a great pianist can produce is due to the immensely complex proprioceptions going on in their playing, as all the force and weight distributions of the body are modulated, self-organizing in the articulation of the keys. Dance or sports are activities with a high focus on proprioception, on the muscular sensation, and the inward concentration in the body's capacities of movement. Sex more generally, and in particular masturbation, is a strongly proprioceptive experience, a pure act of concentration in a more or less transformative self-feeling, alone or with others. The pleasure of walking is intensely proprioceptive and the space I walk through becomes part of my proprioceptive field.

30 In the second part of Book 5, I will elaborate on this in the section on the panchoreographic and the epidemiology of contagious gestures in the Algoricene.

31 As already denounced by Guy Debord in *Society of Spectacle* (1995).

32 See Barker (1984) on a radical critique of subjectivity as subjection.

technology or media we encounter actually transform our cognitive and affective capacities, our body chemistries, and our ecosystems. It redefines what has been called "embodiment."

### 2.5.4 Neuroplasticity as Sensorimotor Plasticity: Neuronormativity as Narrowing

In the brain, there are no networks-as-structures: there are *neuronal movements*! Synapses emerge from proprioceptive movement and multisensory integration, that is, from highly diffuse fields of movement–sensation. Every movement–sensation that creates synapses is itself a movement evolving in time, never twice the same but always in variation. For this, the synaptic networks emerging in the brain must also bear this intrinsic openness and indeterminacy. A thought, then, is not a state, but a *movement,* unfolding temporally and in variation, across the brain synapses and in relation to the moving body, always creating new extensions of its diffuse networks of trillions of connections, with always new potential openings, indeterminacies, and variations — just like the proprioceptive field from which they emerge and in relation to which they keep transforming, provided some basic and provisional constraints about regions of the brain, which keep unfolding in evolution.

Neuroplasticity is the creation of always new synapses through variation in movement, which in turn create new capacities to move and relate *in an ever-widening spiral, instead of an ever narrowing one. There can be no true neuroplasticity without sensorimotor plasticity.*[33]

The body's movements and the neuronal fields affect one another: thoughts can destabilize movements, and movements can destabilize thoughts, that's why we need to go for a walk when we are stuck with some thought.

33 On the plasticity and indeterminacy of the nervous system as opposed to binary computation, see Nail (2021, 186): "Animal elasticity follows a vortical wave motion continuous with the physical performance and transformation of the neuron. In other words, there is no abstract information that merely passes through the neuron. Instead, there is a collective oscillation, vibration, and vortical elasticity of the neurons. While voltages remain the same in the flow, it is the various frequencies of the oscillations that perform the signal. Neurological communication is, therefore, not merely a translation but a material transformation of the whole vibrating neuronal body. […] Neuroelectrical signals are a material and 'kinosemiotic' flux. Each pulse is not a binary on or off but rather a continuous flux-wave through the axon. Axons are not like 1s or 0s but rather elastically expanding and contracting bodies whose beelike dance communicates emergent signal patterns in collective relation with millions of others. Fluctuations in the electrochemical composition are constant, but the feedback loops are only triggered when the composition crosses a certain elastic threshold."

On neuroplasticity and its link to movement and the relation between the triggering of stimuli and the fluctuating and vibratory movement of the nervous system itself, see Nail (2021, 188): "The animal nervous system is also highly plastic. The more elastic electrical waves travel specific pathways between nerve cells, the stronger those connections become. The more frequently stimulations occur, the more likely they are to trigger an action wave in the neuron or create a new synaptic connection between nerve cells. Conversely, the less they move, the less easily they will move in the future, and the less stimuli will be enough to trigger their action waves. […] In this way, the nervous system can change in response to the environment faster than DNA can mutate the organism. Synapse connections between neurons are continually undergoing revision, getting stronger and more elastic in some places and weaker in others. Neural pathways can rapidly expand in some regions of the body and contract in others according to the complex nonlinear dynamics of the whole nervous system. […] In short, the animal nervous system is not mechanical, deterministic, or hardwired, but rather elastic, vibratory, and humming with waves of sensation."

*Crossmodal plasticity,* as the "adaptive reorganisation of neurons to integrate the function of two or more sensory systems,"[34] is a fundamental form of neuroplasticity, usually studied in pathological states, such as when a person goes blind and has to reorganize their sensory modalities. In fact, it is a primordial mode of operation of multisensory integration through which we can *continually foster neuroplasticity* by increasing the capacity for crossmodal relations through variations in movement.

I propose that bodies with very low sensorimotor plasticity also have small brain plasticity: their synapses rarely renew and are less rich than in bodies with greater plasticity, tending to "detach" themselves by abstracting their operation, to some extent, from their field of emergence in the body. This inevitably leads to circuits of "bad conscience" — closed circles of thought — which happen when neural networks with very few changes in their connection to other networks abstract themselves from the body in which they emerged and seek to dominate it. This narrows the bandwidth of the sensorimotor spectrum in the body. No wonder that a culture of proprioceptive atrophy develops so many "mental," neurophysiological, physical, and emotional pathologies![35]

We need instead to mobilize cross-modal plasticity through continued variation of movement, in order to regenerate synapses and avoid their abstract domination, keeping them in touch with the proprioceptive field from which they continue to emerge and where they continue to transform.

The hypothesis of the relation between neuroplasticity and sensorimotor plasticity also implies that neuronormativity is associated with a narrowing of the sensorimotor spectrum. Neuronomativity is a predominant cognitive ableism that is presented as neurotypical standard, nowadays associated with rationalization. I suggest that neurotypicals are those able to reduce their neuro-sensorimotor spectrum in order to align themselves with the cognitive norm. Instead, neurodiversity is the much larger field of potential cognitive modes, which are also sensorimotor modes. An intrinsically neurodiverse culture will be one that does not enforce a particular neuronormativity. But how to arrive at this openness is yet to be accounted for. In Book 6 I propose some possibilities.

Neuronormativity is like a thin, homogenizing line that imposes a divide. Some align themselves with it, some are unable to gather energies and collapse below the line, others gathering creative joy jump over it in a healing, Dionysian kind of madness.

The idea of the "human" as "pattern-making animal," linked to a "cortical capacity" needs to be balanced with the multiple other kinds of intelligences that multiple kinds of "humans" and bodies expose, without ever privileging the rationalist mode, as this implies a colonial prejudice and bias. Damned cortical capacity! It is only a tendency, not be confused with the whole!

In her famous statement for neurodiversity entitled *In My Language,*[36] Mel Baggs exposes in fact a proprioceptive–kinaesthetic–rhythmic attunement and relation to her environment, a *thinking of the body as motion,* a mode that operates in a broad

34 See *Wikipedia,* s.v. "Cross modal plasticity," https://en.wikipedia.org/wiki/Cross_modal_plasticity.

35 It is not that neuronal movements are dependent on, or determined by proprioceptive movements. Rather, they are an evolutionary extension of it, but both have relative independence. The problem is when there is no plastic reciprocal reconfiguration, when they split from each other and narrow down the spectrum of reconfigurations, as when the immobile body produces repetitive neuronal patterns that split themselves from the body's movements, imposing themselves in turn.

36 See silentmiaow (2007).

attentional arc, instead of narrowing the focus. This kinaesthetic attunement is not unlike how children or cats might think–perceive along an infinite spectrum of modes. It is based on cosensing and is therefore far more ecological than detached vision at a distance. We need to reverse the story and denounce the poverty and ontoviolence of neurotypical or neuronomative alignments that have defined personhood as capacity for linear–rationalist thinking–moving from fixed points of vision. Away with this narrowing mode, this cosmic anomaly!

We are not our brain,[37] just like we are not our DNA. Brain and DNA are part of much larger fields of indetermination. We need to promote a genetic indeterminism and a *neuro-indeterminism.*

### 2.5.5 Beyond Image and Schema

The sense of body may correspond at times to biomechanical schemas of bodily form, skeleton, and organs, but not necessarily. Shaun Gallagher (2005) differentiates body image, as a more visual awareness of shape, from body schema, as a more proprioceptive sense of body. Proprioception can be reduced and trained to focus on particular schemas and body images. That's precisely what goes on in perspectival culture, always entailing a reduction. Here I will argue for a much wider, diffuse, subtle, and irreducible field of more plastic possibilities.

The zones of internal tension and torsion one may feel across the body can be much smaller than the body parts identified by biomechanical schemas. They can be in-between any of these given parts. They can connect across the body, as when a sensation in my neck somehow connects with another in my foot, and how this particular *somasthesia* (sense of body) invites me to move in a new way while I am stretching in bed in the morning, for example. Meanwhile, most or all nonconscious processes going on in the body, which by far exceed in number those accessible to a rational awareness, are also linked to proprioception, to the body's internal sensing of its distributed motion and highly complex molecular orchestration. This is a richness that should never be neglected.

We are never outside as observers. We are inside the swarm of microperceptions. Indeed, our "cognitive" field emerges with it, from it, as part of it, like a fold within it.

Perhaps we need to shift from image and schema to what Massumi calls the biogram, that is, nonrepresentational movement fields that have proprioception as their main plane of cross-referencing and include the whole set of relations with our surroundings. The biogram always flocks around with the world, composing with it in multiple and blurry strands and spans, spacings and temporalizations, densities and orientations, quasi-vectors, diffuse intentional arcs, swarming multitudes unfolding as the intricate rhythms of life.

### 2.5.6 Beyond Radical Enaction

An interesting cue for rethinking perception and movement is provided by Francisco Varela's account of enactive and embodied cognition (Varela, Thomson, and Rosch 1993, 173), which can be radicalized by means of proprioception. The cognitive processes that enable us to know the world and act in it emerge gradually, with the

37 On the construction of the cerebral subject, see Vidal and Ortega (2017).

movements that the body makes in relation to an environment to whose transformation it contributes. Together with Clark's idea of the extended mind and the notion of embeddedness and situatedness, the idea of a 4E theory of embodied, enactive, embedded, and extended cognition has become established. One could expand this to a 5E theory of enactive, embodied, expanded and extended, embedded and entangled, and emergent and self-organized cognition, and therefore decentralized and distributed perceptions.

Cognitive processes emerge gradually with the movements that the body makes in relation to an environment. Varela tries to bridge the chicken–egg dilemma introduced by the theory of *autopoiēsis,*[38] developed by Umberto Maturana and himself, in cognitive sciences: is perception–cognition relative only to its inner structures or something that perceives preexisting structures from the outside world? And is this a closed circuit of self-production (*autopoiēsis*) or a relational one (which we could call *sympoiēsis,* as proposed by Haraway [2016, 58])? The solution proposed is a middle way, the idea of enaction as a twofold structural coupling, an ongoing reattunement between the inner world projecting itself and how it contributes to shape an environment for interaction, understood as "structural coupling."[39]

38 *Autopoiēsis* as proposed by Maturana and Varela (1980) is a complex and radical concept that is seldom treated in its radicality. It is neither merely the self-maintenance, nor even the self-creation of a living entity: it implies the self-referentiality of its entire perceptual–sensory–cognitive system, and it denies teleology, purpose, goal and exoreferentiality altogether. My proposal could be seen as being completely opposed to Maturana's vision of *autopoiēsis* as closed autoreferential system pointing to an anarchist society of autonomous individuals, while depending on the notion of observer. The relation is, however, not so simple. There is one idea from *autopoiēsis* that one can say deeply colors my approach, namely that *perception speaks foremostly of its own internal structures* (an idea which one finds also in Vilém Flusser's theories of photography), and in the identification of perception and cognition, whereby for me these may include the entire infrastructure of a technical system like perspectival vision and its planetary-scale distribution of sensibility. I thus radicalize the more radical aspect of *autopoiēsis*. Just like the frog's visual cortex creates a perception of movement differentials that don't match our idea of the objective visual perception of an outside reality, so does each observation act create a reality proper to the act, which in evolutionary terms evolves into complex organizations and organisms. Where things start to diverge more deeply is in relation to the notion of self-determination and of determination more generally, given the primordial aspect of indetermination in my proposal. At the same time, the absence of proprioception in Maturana & Varela is striking, and the persistence in the problematic notion of observers, even though they were writing nearly seventy years after Sherrington! Again, the missing term was movement! This leads, I think, to deep misinterpretations about the operation of perception, cognition, and the nervous system, creating inexorable difficulties for thinking relations, societies, and the differential entanglement of perceptions, a problem that Varela tries to tackle through enaction. *Autopoiēsis,* growth, and reproduction are expressions of the new impulse that fluctuations take when the momentum of matter flows becomes a transductive flow of electrons crossing a new threshold of variation and complexity in the enfoldings of nature, as metabolic mutations. *Autopoiēsis* in its most radical and visionary sense implies the denial of representationalism, that is, there is no outside world we can perceive, we perceive only our inner structures, which we project onto the world. But *autopoiēsis* thus conceived is actually an effect of a visually centered culture that has ignored proprioception, and indeed expresses what the all-too-human human has done for the last millennia in order to create a geometric world that externalizes the human's inner modes of narrow linear thinking and its fears, while increasingly losing the capacity to feel the world in other ways and to move with it in symbiosis. Current dystopian fantasies (both in science fiction and transhumanism) that we may be inhabiting a computer simulation are actually an expression of the same idea, the same narrowness and fear, based on the religious belief in a calculable world and a lost capacity to vary, to feel oneself in variation: a phallogocentric domination fantasy. Would an enslaved, racialized body think that the world is a simulation in someone's videogame?

39 Here, where Varela is building upon Merleau-Ponty (Varela, Thomson, and Rosch 1993, 173), there is a distinction between the world-at-large and the *Umwelt* or meaningful environment for interac-

My proposal in this book can thus be seen as a *radical enactive theory*, since it expands Varela's notion in three steps. Not only do perceptual structures and synaptogenesis[40] emerge from movement relations, but so do the ecologies or worlds we coemerge with. This can happen in endlessly varied ways, some more open and plastic than others. Herein lies the politics of the proposal. Rather than considering that all movements of an organism are conditioned by external influences (as Varela seems to do, following Merleau-Ponty [Varela, Thomson, and Rosch 1993, 174]), I develop the idea that bodies and environments can continually and reciprocally reconfigure the fields they compose.

Embodied cognitive sciences often still assign a high status to the ideas of mind or consciousness (as in Lakoff and Johnson [1999] or Noë [2009]). Anthony Chemero (2009) proposes an antirepresentationalist radical embodied cognitive science relating to Gibson's affordances as nonrepresentational, direct perceptions. He criticizes the way embodied cognition theories return to a kind of middle way — a computational representationalism that takes mental representations and abstract symbol manipulations as the model for cognition, tied not only to a body schema but to a body image.[41] But these radical enactivists[42] are perhaps not radical enough in that they do not consider the intrinsic plasticity of nonrepresentational processes. It is never enough to claim that we perceive directly if this does not allow us to consider how to transform our perceptions, and if it reintroduces the idea that nondirect perceptions are necessary and still the higher mode. Inversely, we could follow William James and perhaps Nietzsche in considering that every direct perception brings with itself its own meanings and interpretations. The same applies to current approaches to embodied AI, which reduce embodied learning in robots or artificial agents to the learning of patterns through movement. What about the indeterminacy and behavioral openness at the core of proprioception, of fields, and of evolution? Researchers such as Rolf Pfeifer defend the role of behavioral diversity in developing embodied AI (Pfeifer and Iida 2003; Pfeifer and Bongard 2007).

I suggest that an intelligence needs a body, that is, a proprioceptive field of a certain complexity. I propose that where a real, new, and unprecedented kind of "embodied AI" might be coming up is in the diffuse, unfathomably complex body or cyborg of planetary-scale computation systems, and not in any AI simulation.

tion that a body creates for itself within it. Varela's proposal is almost intra-active, but not quite; he still acknowledges a certain degree of preexistence of relata, as when speaking about guidance of the action, and his acknowledgment of *categorization* as process relative to all organisms, or his recourse to Johnson's schemas and his reference to survival, echoes Darwinian accounts of selection. The coupling of organism and environments, still considered as initially separate, is *structural* and concerns reciprocal *specification and selection* as actualization. There is still some representationalism. He importantly misses reference to proprioception, focusing more on exteroceptive sensing modalities (vision, smell), echoing Merleau-Ponty in considering all the movements of the organism as conditioned by *external* influence (symptomatic of his own perspectival bias). But how do internal movements also change the organism's overall movements, maybe unconditioning or indetermining?

40 See Hayles (2012, 99), on how "synapses are pruned in response to environmental stimuli."

41 "I hereby define radical embodied cognitive science as the scientific study of perception, cognition, and action as necessarily embodied phenomenon, using explanatory tools that do not posit mental representations. It is cognitive science without mental gymnastics. [...] Situated, embodied cognitive scientists typically reject the anti-representationalism of Gibson, Barwise and Perry, and Brooks, while anti-representationalism (which implies anti-computationalism) is the core of radical embodied cognitive science" (Chemero 2009, 29–30).

42 Such as Hutto and Myin (2013) and Ward, Silverman, and Villalobos (2017).

### 2.5.7 (Meta-)affordances as Proprioceptive Fields

The notion of affordance from Gibson's (1979) ecological theory of visual perception[43] provides yet another interesting cue for furthering our thinking in-between things and can be radically expanded through proprioception. He defines affordances as opportunities for action provided by an environment.[44]

They are not meant as "mental representations" but as "direct perceptions." I will indeed argue that supposedly "mental" representations are themselves particular kinds of affordances emerging in geometric environments, orienting movement, and the modes of thought relative to them in linear ways. Mental representations are *self-referential synapses emerging in atrophied bodies.*

Gibson's notion of affordance is relational. It displaces the focus from the entities or subjects–objects relating to the relation itself.[45] I expand this notion by thinking it strictly in terms of movement, an affordance as a field of movement relations. Affordances are potentialities, relational movement potentials. They are both protentions and memories, or in-between these, and indeterminate by principle.

For instance, in my studio, objects that are usually meant for a particular function may become a more undefined affordance in a creative process such as when I recycle or hack pop-up structures to make flexinamic architectures and create a new movement relation with them; or when my dog-friend finds comfortable affordances for lying down on materials and textiles that I had never imagined suited that purpose; or the way a child or a cat will find unpredictable affordances to play with things that are maybe meaningless or imperceptible to me until someone else highlights them. No object has a fully defined set of potentials.[46]

43 See Hustvedt (2017) on the way in which Simone Weil (1989) anticipated around 1933 the relation between movement and perception in similar way as proposed by Gibson decades later.

44 John T. Sanders (1999) proposes to think affordances as ontological primaries preceding objects and events, where behavior is more about openness to opportunities for action, a state of being alert and ready to resonate and attune with affordances. "The idea in Merleau-Ponty, as it was for Gibson, is that animal behavior is best understood in terms of alertness to opportunities for action. While all animals move through their worlds in a kind of attunement with affordances, different animals show different degrees of complexity in their appreciation of multiplicities of affordances available in particular parts of the surrounding environment" (132).

45 See, for instance, Gibson's *The Ecological Approach* (2015, 119–20, 129): "I mean by it something that *refers to both* the environment and the animal in a way that no existing term does. It implies the *complementarity* of the animal and the environment. [...] As an affordance of support for a species of animal, however, they have to be measured *relative to the animal.* They are unique for that animal. They are not just abstract physical properties. They have unity *relative to the posture and behavior of the animal being considered.* So an affordance cannot be measured as we measure in physics. [... A] n affordance is neither an objective property nor a subjective property; or it is both if you like. An affordance cuts across the dichotomy of subjective-objective and helps us to understand its inadequacy. It is equally a fact of the environment and a fact of behavior. It is both physical and psychical, yet neither. An affordance points both ways, to the environment and to the observer."

46 This approach to affordances and to promoting kinaesthetic and multisensory plasticity resonates with architects Arakawa and Madeline Gins (Gins & Arakawa 2002) and with the idea of architectures of multiple and playful affordances as life-fostering invitations to move that can reverse body destinies — in my case, focusing on proprioception and indeterminacy (rather than apportioning) going in a radically antitranshumanistic direction, shorter lives with deeper qualities, as part of cosmic mutation! This is at odds with their transhumanistic claim for immortality. My practices discussed in Book 6, which are also architectural and sensory, expose a different set of approaches to plasticity, largely grounded on proprioception, that question the boundary of the individual and enhance its sense of entanglement with a world.

This implies that *there is no predetermination of the movement relation on behalf of a bodily shape, or the shape of an object*. A human body can endlessly vary the relations between its 360 joints, affording always new movement qualities. This *archē*-affordance, or metaffordance, of the proprioceptive variation of a body is crucial for mobilizing plasticity with other affordances and ecologies. I can always find new ways of moving in relation to an object, no matter how rigid it looks. It is never just a linear relation. It is a recomposition of my proprioceptive field. This *variation of my internal movement* in relation to another body will radically change the "shape" of the other body too, and not only in how I perceive it. It may actually change over time, due to new intra-actions at different levels. This is, in fact, how genes as affordances for protein assemblages change. Protein affordances follow a similar logic, evolving over eons of movement improvisations together with the radical folding movements of DNA itself as yet another folding affordance, perhaps the most radical one. Even apparently rigid objects will evolve over time, say, for instance, how objects or architectures are designed as part of larger relational movement fields, in relation to our proprioceptive variations. In relation to another plastic body, the mutual recomposition is more immediate, such as in conversation, having sex, or dancing together.

Affordances have *long temporal processes and spatial distributions.* A glass as an affordance for drinking evolves over millennia from movements and intra-actions along gestures of drinking, building, and design that may span the whole globe. And it's not only the shape and the gesture of drinking that evolves in the process, but it is also the bodies performing the movement. Bodies, glasses, and gestures are in continuous reciprocal reconfiguration as part of the affordance, which turns out to be an entire ecology or field. The affordance is in fact a good way of rethinking any object as part of an ecology of movements. A body or person is an affordance within social, economic, affective, or sexual ecologies. A discursive apparatus, norm, or technology is an affordance composing relational fields.

Affordances can help us move from the fixity of the object to the plasticity of the field. They can be more open or more reductive, allowing more degrees of freedom or imposing an orientation. They speak mostly of the orientations and contacts–proximities composing a field. The affordance of the forest as I wander in it, of a musical instrument as I explore its timbrical potentials, or of another body in multisensory contact, are mostly less determined than the affordance of a computer keyboard that imposes on me the ratio of clicking while looking at the screen from a fixed point of vision.

Proprioception is the *archē*-affordance. It is how we make ourselves available for others to compose themselves with us, and how we compose with others along the way. In order to understand how we arrive at Gibson's notion of affordances as opportunities for interaction in an environment, we need to start from the *archē*-proprioception of molecular swarms and imagine how the complexity of bacterial assemblages gradually brought about entire ecosystems and the biosphere, including more articulate bodies with new sensing capacities, but whose primordial sense is still proprioception.

This radically redefines perception, not as the selection and reduction via external senses from an infinite flow of "data," but the crafting of fields, whereby every field defines not only a mode of movement but a mode of perception. There are as many kinds of perception as there are movement fields or metabodies.

#### 2.5.7.1 *Ontotherapy, Ontohacking, Cartesiholic Anonymous Exercise 2: From Object to Affordance*

An interesting exercise is to shift our perception of an object to that of an affordance as movement relation happening in-between. For instance, think again of the glass that you hold to drink. How does it orient you? What does its shape afford to you, and what do your own movement potentials afford in relation to the glass? What degrees of freedom do you have in your movement orientation with the glass — say, versus interacting with a digital interface, or driving a car, or a gesturing in conversation, or stretching in bed when you wake up, or hugging someone, or dancing, or sexing? *How does the glass become integrated in your proprioception?* How do you feel it, and how do you feel yourself through the movements of holding it, filling it, drinking from it, or toasting with it? Is there a shape of your body affording potentials for interaction, or something more undefined in proprioception and movement? What other movements is the body doing at the same time as it flocks around? What is the embodied knowledge through which you have learned to orient yourself in relation to the glass? Is this orientation happening just here and now? Is it a memory crafted throughout your lifetime? Or is it a longer memory, one of bodies moving in relation to glasses over millennia, crafting the affordance, shape, and design of the glass itself? Is it improvisation, choreography composition, or both? Has your body emerged, over thousands of years of evolution, from movement relations with multiple affordances — of which genetics is just a part? How does your learned perception of the glass limit your movement relation, and how to open this embodied knowledge up to other possibilities by moving differently? How would a child or a cat move in relation to the glass? What are its degrees of freedom as openness? What could we gain from recovering some of the child's, or the cat's, perceptual plasticity, finding unexpected landscapes, sensations, movements, and undefined affordances (metaffordances) in the glass?[47]

### 2.5.8 Intra-action, Transduction, and Metafractal Fields

Proprioception is the *common body,* that is, the source of our entanglement with the world and of our embodied knowledge, and the ground for both self and world as dynamic and inseparable processes constituting reciprocally. It is the radically *common* ground for our primordial economies of knowledge, our repertoires of gesture, affects, life rhythms, laughter and crying, walking and dancing, seriousness and frivolity, calmness and paranoia, speed, and slowness.[48] These "embodied" knowledges, as if there could be a disembodied one, are relational knowledge in motion and variation.

47 There is always-more-than-just-a-spoon. In a famous scene from the film *The Matrix* (1999), an apprentice tells Neo that if you want to fold the spoon with your mind what you need to realize is that *there is no spoon,* that *it is you who folds.* In the context of my proposal, one could say there is a spoon but there can be endless other things as well, *depending on how you move* (though not everything is possible). What matters is not just to be able to change one thing for another, but that we are able to mobilize more open and less determined realities.

48 Antonio Lafuente (2016) refers to these repertoires as "hidden economies of knowledge," the title of a seminar imparted in Mexico in 2016.

Proprioception is thus the ground of what Karen Barad calls intra-action as "the mutual constitution of entangled agencies" (2007, 33).[49] It is also a transformative propagation that structures itself in the process, in the sense of Gilbert Simondon's concept of transduction, "how an activity propagates gradually inside a domain, founding this propagation on a gradual structuration of the domain" (2005, 32).

Proprioception is thus both intra-active and transductive. We are constantly *recomposing* our proprioceptive field in relation to others and the world. Since every proprioceptive field is irreducibly different, replication is impossible. It's always about transduction, propagating while transforming. Replication is a perspectival chimera.

Proprioception is also metafractal, as the way in which it swarms bottom-up from subatomic fluctuations and top-down from cosmic scales and across modalities is not reducible to a geometry. As I zoom in on my sensations, and beyond them onto the molecular, there is no recurrent pattern. Rather, every layer is irreducibly different yet irreducibly entangled with the others — atoms, proteins, nervous systems, bodies, flocks, societies, the biosphere.

This is different from the more obviously geometric fractality of planetary-scale computation systems, which are largely gridded all the way through. In algorithmic fields, electrical signals are strictly binary, choreographed by microchip architecture, lacking the openness of biological chemical pathways, which are superior *precisely due to their openness.* Billions of sensors and trillions of algorithms compose a new type of planetary-scale proprioceptive body, a body problematically grounded on the heavy, unsustainable, gridded infrastructures that are the very condition of digital, binary signals–movements, and which erase and preempt openness and transformation, simulating it.

Geometric systems can be seen as living bodies that evolve, sensing through calculation, as the bodies enacting them reduce their own movements to perspectival fixed points of vision, gridded frames of calculation. Technical, algorithmic systems sense patterns through the transduction of the analogue signals of sensors into binary signals and code, as well as patterns within their own increasingly self-organizing code (sequences of binary signals). They coform a field of frozen proprioceptions, where calculability itself relies on the alignment and reduction of geometric fields arising over millennia.

### 2.5.9 From Assemblages to Metabodies: Noncognitive Perceptions, Extending the Extended Mind

Katherine Hayles's (2015; 2017) notion of the cognitive nonconscious focuses on the cognitive processes that continuously happen in bodies (technical, human, animal, plant) that differ from rational consciousness, the Freudian unconscious, and the material processes of bodies. Hayles proposes concepts for a planetary cognitive ecology made of distributed *cognitive assemblages,* using nonconscious cognition as a middle term between consciousness and material processes. Nonconscious cognition bridges between machines, biological systems, and humans since it partakes in all of them.

49 But unlike in Barad, it entails no cuts or forms as necessary for mattering and meaning, because it exceeds the paradigm of observation altogether.

Hayles proposes this as a more democratic, flat, or transversal in-between zone of cognition, shared by all biological and technical systems. This neither privileges nor excludes the human and occupies the middle part of a pyramid that still has consciousness at its top. In this, her project is close to Nobert Wiener's *Cybernetics* (1948), which tried to provide a model for communication valid for all living systems and machines. Mark Hansen conducts parallel studies on distributed cognition — building more upon Simondon's individuation and trying to expand it to technical systems — in resonance here with Bernard Stiegler, who rightly argues that the psychic–social and technical are bound together. These approaches to distributed cognition have also been advanced by Andy Clark's theories of the extended mind.

My proposal of proprioceptive swarms is another, more radical middle term, which holds no categorical distinction between material processes and consciousness, two types of fields without a hierarchy. It avoids pyramidal formations that inevitably privilege one part as the higher, though smaller, portion of the whole, the presumed "higher functions of reason." It also explores the leaks between cognitive modes that don't seem to talk to each other, allowing us to explain "cognitive" processes as always embodied: accounting for the kinetic intelligence of all animals and even inorganic matter, but also of human psycho-socio-technical fields. These are accounted for as outgrowths of *archē*-proprioception, but never hold a privileged status.

Cognition would not be, as Hayles suggests, "a process that interprets information in contexts that connect it with meaning" (2017, 22), which denotes just one particular kind of pattern-oriented and reductive cognition. Rather, it would be the body's capacity to *move with* the emergent movements of its environment, or the body's capacity to develop continually *new movement relations in coupling with an environment,* or the body's *capacity to vary and reconfigure its proprioception in an ongoing reattunment with others and its surroundings, while sustaining the capacity to mutate, persisting only to a degree: the capacity to take on the movement of variation expressing fluctuations.*

Alfred North Whitehead's prehensions, as well as the noncognitive nonconscious thinking–feeling in Massumi's work (2002; 2011) — or in a different way Steven Shaviro's *Discognition* (2016) — also present radical denials of consciousness and critiques of the cognitive paradigm[50] as a limiting one that reintroduces Kantian *a priori*s in one way or another. I bypass notions of cognition altogether in understanding thought, affection, and perception as proprioceptive fields of resonance, which are also the ground for meaning and language.

In sorting out the mess of vague concepts around cognition that populate common sense as inherited from a mind-centric tradition, I provisionally propose to resituate them as follows:

**intelligence** as the life-fostering capacity within movement fields, or the capacity to foster a movement of variation in evolution through a balance of consistency and openness (degree of rhythmic plasticity);

50 I align here with a multitude of proposals that denounce the idea of consciousness as an overblown construct coming from Cartesianism that serves the purpose of centralizing the action and foregrounding reduction and control.

**thought** (in general) as the particular dynamics of movement fields (rhythmic mode);
**a thought** as in bodies with a brain, a neuronal movement relating to the proprioceptive field;
**idea** as a condensation in thought, a field, zone, or node of energy density condensing amidst endless webs of nodes (not unlike galaxy filaments). More concretely a swarm of neuronal movements that evolves with its related proprioceptive movements and its multisensory integration, entangled with a world, triggered by movements, and allowing to take the movements into deeper variations;
**interpretation** as the way a field processes its affections with an environment as process of intraduction;
**imagination** as the recomposition of a neuronal movement in relation to its proprioceptive field, or the recomposition of proprioceptive fields; a mode and aspect of memory;
**memory** as the transductive resonance or depth of resonance of a field affording sustainability of variation, always involving recomposition, never reducible to the storage of something given, since memory is of movement and is itself movement;
**reason** as equivalent to thought, and not reducible to rational thought or logic, which is one form of reason amongst a trillion;
**logical reason or rationality** as a linear and pattern-oriented kind of cognition–perception emerging in perspectival environments; linear–causal movement (of thought);
**intuition** as a vague way of naming a broad landscape of ways of thinking of the body (or, in Nietzsche's terms, of the "greater reason" of the body);
**AI** (Artificial Intelligence) as a reductive simulation of a reductive account of rational intelligence;
**BI** (Body Intelligence) as the broader spectrum of modes of intelligence and thought–movement of bodies–fields;
**cognition** as a reduced spectrum of thought–movement–perception oriented to solving particular problems;
**consciousness** as a particular self-reflexive thinking–moving; a reduction and surface phenomenon of proprioceptive fields, emerging in perspectival environments, which has tried to neglect and dominate its field of emergence;
**mind** as the perceptual illusion, due to fixed points of vision, that thought happens independently from the body, so that cognition is considered as independent from perception;
**awareness** as a reflexive, self-referential, or recursive perception, not necessarily involving a self-awareness in the sense of consciousness; rather, self-referential to the perceptual process itself, like a redoubling of it or a recursivity within it (mostly linked to perspective);
**perception** as fluctuating distributions of energy density relations holding together in variation, composing fields, *a priori (an)archē*-proprioception;
**affect** as quality of movements–affections–relations;
**desire** as the openness in movement's orientation;
**sex** as the transformative power in the composition and mutation of movement; the singularity process of (re)composition where new fields consist;

**movement** as fluctuation fielding forth in variation; change of internal dynamics intra-actively composing fields and transducing across other fields.

### 2.5.10 Language as Extended Proprioceptive Field

Vocal–aural communication in ecosystems or societies without written signs or traces was already an expansion, diffraction, and expression of proprioceptive fields. All communication is an expanded proprioception.

Making sense is sensing oneself-with-others in entangled proprioceptions. Meaning, communication, empathy, and sympathy are fundamentally proprioceptive. The way in which we learn a language is always bound to a proprioceptive experience. This is what Bergson (2016) was pointing to when talking about absolute movement as movement from within in learning a language: entering the current and flow, the rhythm and music of its movement, which is mostly nonverbal. A language is a particular kind of highly intricate and complex field of expanded proprioceptions. But given its increasing grammatization and exosomatization in Stiegler's terms, the field of language has become increasingly frozen, guided by the tyranny of perspectival signs and rules framed at homogeneous distances. People learn foreign languages by putting together segments from grammar books but rarely enter the indivisible movement from within, which our rule-obsessed culture despises. And yet, even today, the aliveness of any language is grounded on proprioceptive variation due to languages fluctuating and evolving, always as living fields.

When we learn a word, it is embodied and embedded in a complex proprioceptive and multisensory integration, history, and movement, that is, a nonlinear swarm history and swarm memory. The sense of a word is the resonance it has in a shared proprioceptive body of memories. And yet, for each body, these memories are irreducibly different. Thus, the field of resonance is intrinsically differential. How a word I learned integrated itself in a particular field of proprioceptive multisensory memories will be different from how someone else embodied it since proprioception is the ground both for a complex multisensory integration and for the internal fluctuations of our microcosmos, for our capacity to move or act, and thus our desire and our affect. Sense is ultimately that felt, fluctuating resonance across the deepest proprioceptive tissues and across bodies.

Language is a field of proprioceptive resonance. Perspective, frames, screens, and algorithmic technologies in general have reduced language's field by creating homogeneous alignments and thus abstractions that want to dominate it. The field becomes a concentric resonance between bodies that relate to one another through the homogeneous, specular, mirror-like geometries of perspective, fostering mirror neuron mechanisms.

But proprioception's movement is not so much about a repetition of patterns across specular nodes of transmission as it is about the constant transductive change that one finds in diffraction,[51] such as when a wave encounters an obstacle and *deviates through the angles of the obstacle,* while going on and traversing other waves. The body–language is a diffractive node and field of resonance of an *indefinite number of*

51 Diffraction is the phenomenon that occurs when a wave encounters an obstacle or a slit. The wave pattern changes while the wave goes on, and traverses other waves. Barad (2007, 71) uses this phenomenon as a trope for differential movements based on internal observation acts, as opposed to the reflexive character of representation based on a fixed external observer.

*waves resonating together in emergent reattunements of the field.* What keeps language alive is still the diffraction of verbal or nonverbal movements across proprioceptions. *The meaning of words is a resonance or condensation in the proprioceptive swarm,* that is to say, words come from proprioceptive swarms and always return to them.

Words are never as categorizing as they are presumed to be. Most of our verbal acts are modes of microrhythmic attunement to others, and diverse languages have diverse ways of fielding, some of them more categorizing than others. But even in reading or typing, the field of proprioceptive memory is alive in its differential irreducibility, where words are diffractive affordances and nodes. Ludwig Wittgenstein's idea that language is its use needs to be taken down to the radical openness at the core of proprioception, as the primordial matrix of language and communication.

This is an expansion of Jacques Derrida's *différance* (1982), understood as the differential deferral of the meaning of words, which is not only spacing and temporalizing in reference to other words or traces, but to proprioception, down to quantum fluctuations. This means that words don't only refer to other words and traces in a never-ending process, but also to proprioceptive and multisensory experiences and memories in a rhizomatic, nonlinear, swarming field of quantum indeterminacy. This also expands Derrida's *dissemination* (1981) as the force within language that moves in excess of any totalizing gesture of closure as ongoing opening, which is the movement of proprioception as expression of fluctuation, excess, and surplus that never gets reduced.

*Radical différance* and *radical dissemination* imply rethinking Derrida's metacepts not from the text but from proprioceptive movement, where the text is always emerging from and going back to the proprioceptive swarms. Indeterminacy, fluctuation, and ambiguous resonance are always ontologically prior to any fixed account of meaning. Meaning is a blurry condensation in proprioception, *crafting a complex resonance as it comes together with myriad other memories and processes.*

Diffractive and *différant* neurons need to be theorized and mobilized in accounting for how we intra-act in the world without the need for perspectival, specular architectures that frame worlds in replicable chimeras. We look at the amorphous movement of waves in the sea and embody it diffractively and transductively, not reflexively, as in the gesture imitated in specular frames of repetition.

This of course implies a radical reconceptualization of communication in diametrical opposition to the prevailing one.[52]

> *Body am I through and through, and nothing besides, and the soul is just a word for something in the body.* [...] *The body is a great reason, a multiplicity with one sense,* [...]. *Your small reason, what you call "spirit" is also a tool of your body, my brother, a small work- and plaything of your great reason.*
>
> — Friedrich Nietzsche (2006, 23)

> *"To understand" actually means to initially be able to move innerly in the heard rhythm.*
>
> — Karlheinz Stockhausen[53]

52 Especially since Claude Shannon's information theory, conceived as disembodied patterns divorced from context and meaning.

53 The quote is from the English translation entitled "Comes awakening, comes time" appearing in the CD booklet of the *Klavierstücke* (Stockhausen 1988).

*Ordinary speech tries* [...] *to keep alive the presence of at least a minimum of so called nonverbal semiotic components* [...] *preventing the despotism of signifying circularity.*
— Félix Guattari (1995, 89, translation modified)

*The body rhetorically exceeds the speech act it also performs.*
— Judith Butler (1997, 155)

### 2.5.11 The Text Is Body and Not the Reverse

The textualization of the body has been a predominant mantra in poststructuralist critical circles, which have problematically narrowed the field of politics to the frames of discourse and representation. Coming myself from such circles, I want to propose a self-critical reverse move. Away with discourse-centric reductions of the body to textuality! Let's undo the tyranny of the text, discourse, and representation. Let's talk about the essential ambiguity of communication. As I communicate with you now, each of you is understanding something different, resonating in vibratory differentials that written language in its presumption of universality cannot contain. For how could proprioceptive memories and histories be homogenized to the point of having bodies resonate in identical patterns of meaning? This is neither possible nor desirable, as it would imply a reduction of bodies to homogeneous and flat fields, an erasure of the aliveness, diversity, variation, and openness that is the movement of evolution and fluctuation, which in turn is the universe's movement.

Many will raise their eyebrows and ask *how is relation and sociality possible in the absence of a common reference?* The reply is always in proprioception. *Fixed external references and rules became necessary when proprioception became too impoverished.*

Whether you want it or not, *we are always more nonverbal than verbal*, like all other life forms. This shouldn't come as a surprise given the recent advent of verbality in evolution, which has taken over at the cost of nonverbal atrophy and of a neglection of the body, movement, and the senses.

Nonverbal communication studies point to the 93 percent of nonverbal content that sustains any body-to-body interaction, as opposed to the 7 percent that may be conceptualized as purely verbal.[54] Yet one could ask whether there can even be such a percentage of communication that is detached from nonverbal bodily aspects. The

54 This is one of the figures proposed in nonverbal communication studies, based on the research of Albert Mehrabian in the 1960s (García Fernández 2000, 28). Other studies such as Ray Birdwhistell's point to different ratios but still with the nonverbal largely outweighing the verbal. This serves as a starting point to question and invert the usual confusion and ignorance about the supposed and false prevalence of the "purely" verbal in the *sapiens*. The purely verbal aspect would be, in my opinion, only that part of the movements of speech that can be segmented, codified, and translated into a written word and typography, but which is inseparable from much more indeterminate and variable movements that have to do with paralanguage (intonation, or how what is said is said), body movement, gesture, proxemics (spatial distance), and chronemics (temporality), clothing and object language, etc. Mehrabian attributes 55 percent to movement (kinesics or kinesics) and 38 percent to paralanguage (intonation and manner of speaking). I argue that the indeterminacy of the nonverbal component is what allows a conversation to be an open and creative process of interpretation, of reciprocal affections and undetermined resonances. Words are unthinkable as disembodied and decontextualized code, as they would lack any meaning. Meaning is a differential reciprocal affection, a symbiotic mutation. The discrete movement of the word is a mere index or reference for bodily processes of movement variation. The problem is when the balance is completely broken, and the semiotic abstractions completely impose themselves on everything else.

93 percent has to do with different layers of nonverbal communication: kinaesthetics, paralanguage, somatics, proxemics, cronemics, and so forth. But do words exist separate from verbal movements, as purely formal and disembodied abstractions? I further propose that this 93 percent is not merely underlying the meanings of words. Rather, it is mobilizing *the open field of proprioceptive resonance that is communication.*

How do particular technologies reduce and standardize the radical openness of bodies into the *invisible prison of the Cartesian grid?* How to reembody text and speech beyond the drive of disembodied click and drag, of minds that interact with or control the bodies that matter? How to bring language back to proprioceptive vibrancy?

Keeping degrees of illegibility and indeterminacy is a necessary condition for a livable life and for evolution as variation. It could be argued that this is the vision of a privileged subject who already profits from visibility and who can speak. But could it not also mean that the systemic imperative for speech and visibility (narrowing, framing, aligning, and reducing) is the problem? Is it perhaps the visualization and signification machine that generates the split, the appropriation, and the silencing?

My only certainty about *my meaning* is that each of you readers is embodying the effects of my words in radically different ways. And that is the richness of the open field we can cocreate.

For even in the coldest typography there is an echo of gestures, and in every gesture a proprioceptive resonance. Even the most rigid screen-based environments are all about proprioceptive attunements. It's an issue of *broad-bandwidth bodies* versus *narrow-bandwidth bodies.*

Everything in language comes from the proprioceptive swarms, and everything goes back to them. When I read, the body is also reaching out to, and recomposing, its proprioceptive memory. *Imagination is proprioceptive memory recomposed and reconnecting to proprioception and the body's capacity to move, opening up new variations.*

Major languages are those in which certain abstractions have become dominant, generating a closed, self-referential, and totalizing field (writing, meaning, universal signifiers, grammar), minimizing proprioception. Minor languages are those which remain vibrant, resonant, open to the full proprioceptive spectrum from which they emerge, and which they are.

### 2.5.12 Epigenetic Symbiosis and *n*-Trainment

Studies on interactional synchrony point to the relevance of shared nonconscious rhythms, rather than imitated gestures, as constituting the very substrate of face-to-face interaction between two bodies, "as if," as Flora Davis (1973, 114) describes, "they were carried along together by the same current," a "dense and intricate dance" where bodies talking and facing one another start connecting unconsciously at the level of small bodily rhythms, perceivable in how the small unconscious gestures of one reflects, or rather diffracts, or resonates with, the verbal rhythms of the other. The indeterminate but consistent attunement of rhythms generates a metabody — a *common body* of open dynamics — which is eventually the core of a conversation and in the absence of which there is no connection. It enacts a *diffractive and transductive presence and movement of the other inside you,* and thereby *a dynamic togetherness: the intraductive emergence of a metabody.*

As Davis also explains, this microgestural, microrhythmic attunement has even deeper implications when considering sustained long-term relations between humans or even between humans and nonhumans. The similarity of appearance that

comes up over the years between components of a human couple, as well as between a dog and its human dog-friend, or other long-term relations and modes of kinship, are grounded on this attunement. I propose to define it as *epigenetic symbiosis,* as a crucial social and evolutionary mechanism. The symbiosis of a person with their house, or of an artist with their studio, follows a similar logic — where the space is a rhythmic field, an expanded proprioception, which is not just emanating from a human body as its center. A field has no center. Think also of the machines populating a kitchen, which align part of our daily flocking with global mechanical choreographies, or the television in the living room and the computer in the office, as perspectival interfaces that align us with global algorithmic fields, and so forth. We need to study carefully the openness, richness, and variation in the fields of attunements we create or align ourselves with.

Interactional synchrony, as discussed in nonverbal communication studies, should perhaps be considered not as actual synchronization following a plan, as it is often defined,[55] but as an attunement of emergent dynamics joining in the openness of their incipient dynamics: what Erin Manning calls preacceleration.

Current research on entrainment, as synchronization of behaviors, in AI should be radically revisited under this lens. Attunement always happens in the missing, preconscious half-second of premovement and preacceleration that I will discuss in the next section, where movement is opening up to a new dynamics, an unpredictable variation, a plastic differential emerging amongst the endless fluctuations of a proprioceptive field. If bodies were simply aligning themselves with a preestablished tempo or following a cue, there would be no emergence, and thus no liveliness in the activity, which is always an improvisation, whether in dance, music, conversation, sex, walking, or any other activity.

Thus, I want to propose the notion of untrainment, or n-*trainment,* as capacity to vary in composing new relations.

When one is anchored in plastic proprioception, one creates a deep bond with everything and everyone around, not based on repetition and synchronous alignments but on differential propagation of qualities. It is the differential field, not the homogeneous one, that creates the real bond.

### 2.5.13 Proprioceptive Movement Is Always Premovement

In 1964, Hans Helmut Kornhuber and Lüder Deecke at the University of Freiburg in Germany reported their discovery of the *Bereitschatftspotential,* readiness potential, or premotor potential as the activity in the motor cortex and other areas of the brain preceding conscious movement (Kornhuber and Deeke 2016). Benjamin Libet's experiments in the 1980s further connected premotor activity to volition, questioning the primacy of "free will" in movement through the "missing half-second" in which the body–brain activates *before* the conscious decision to move is taken (Libet et al. 1983).

55 "Interactional synchrony is best regarded as an achievement of the interactants that is attained when the participants come to govern their behavior in relation to one another in respect to a commonly shared frame or joint plan of action. Interactants come to be able to behave together as if they share a common musical score and this can make possible a very high degree of temporal coordination between them" (Kendon 1992, 115).

Rather than relating readiness potential to volition or consciousness, I relate it to the multiplicity of microdispositions (or "intentional arcs," in Merleau-Ponty's terms) of the proprioceptive swarms as they occasionally rise toward a peak of determination. A flock sometimes goes in one direction or other, but still it is always fluctuating. Likewise, as we walk, we flock around, and in turn our movement can be seen a part of a larger flock (the city), which is a mixture of multiple alignments and more fluctuating movements. Determination never fully happens. It's only partially there in fields dominated by narrowing affordances imposing causal lines of action. I argue that in flocks or swarms the microdispositions remain mostly undetermined. Microdispositions relate to microaffects of the fluctuating field, where fluctuation is neither passive nor active, yet both.

Hubert Godard (1998) in turn introduces a slightly different account of premovement, which is both physical and affective, and is described as an *attitude to gravity* that will generate very different ways of dealing with how affects decenter the center of gravity. The expressive quality of movement lies not in a form or posture but in this dynamic dealing with gravity always happening in premovement. His description of premovement is physical, not neurological. It's not just the brain activity that anticipates, but also the physical body. If you lift your upper arm, your lower leg will anticipate the gravitational decentering and activate itself first. Gravity and acceleration are linked, so premovement *is* preacceleration. It deals with opening up, anticipating a change in an ongoing emergent management of gravitational decenterings, without having these congeal in a posture or form, in a process of continued self-affection.[56] Godard points to a politics of premovement, and of the need to introduce in the *res publica* a *res corporea,* where "the dancer would be a witness of the movements of culture, which lie perhaps and above all in the depths of the genesis of gesture" (1998, 229, my translation).

This notion can be expanded through the proprioceptive swarm, and the idea that fluctuation is the fundamental state of the body. There is no gravity center, except as a fluctuating zone, a blur. Thus, our affects are also primordially fluctuations, unfolding as intricate rhythmic fields and relations. The genesis of gesture lies in more diffuse proprioceptive fields, and the problem comes with its excessive alignment, segmentation, extrusion, abstraction: with domination.

No doubt most researchers will raise their eyebrows and ask, what about prediction and intentionality? Yes, those exist, but only as an occasional part of a much larger field. Researchers should never ignore and neglect the crucial role of behavioral indeterminacy in evolution.

Premotor theories can be radically expanded in the model of the proprioceptive swarm. The idea of a movement following a decisional trajectory is only thinkable in the causal world of mechanical bodies, where trajectories may be anticipated and decisions retrospectively assigned to linear movement. But movement as fluctuating, swarming field is irreducible to linear trajectories. Fluctuation comes before any center of gravity, and the body ultimately never stops its fluctuation, never stabilizes itself in a center.

56 Aristotle (1978) points in this direction of continual reciprocal affections between changing passive and active matters in a body in his treatise on animal locomotion.

### 2.5.14 Proprioceptive Strands

I am a multitude of fields. Each of them made of peculiar but changing rhythms and qualities, bound up by my proprioceptive fluctuation. Always many together at the same time, but continually shifting, as some come to the foreground and others go to the background. Some days, or weeks, I may enter a mode of deeper immersion in a creative activity, a singularity where one of the fields completely takes over. Other periods will entail greater fluctuations amongst multiple fields. The process through which a new field comes up and acquires consistency, thus also creating a memory that stays in the background even when the field is less active, is unpredictable and complex, always across infinitesimal thresholds. You suddenly realize that something is acquiring consistency without ever having a shape or stopping in a form. Then, another process takes over, sometimes many at the same time.

Every situation in life, like every room in the house, is a relational movement field where my proprioceptive tone fluctuates and flocks in diverse rhythms, spacings, torsions. Life is the ongoing tuning of proprioceptive fields as tensional or torsional fields, and each metabody is the emergent tuning of an emergent instrument, of multiple strings and intentional arcs. Every life is in turn a varying ensemble of such instruments or metabodies that create together a resonance and vibrancy field with a changing vital tone, our proprioceptive torsional field and its muscular tone, as it evolves in relation to worlds reciprocally coforming.

Heraclitus's *logos* of becoming, as the tension and identity of contraries, is symbolized by the tension of the string of the lyre or bow. Similarly, Merleau-Ponty's (1962, 157) intentional arc has a sense of tension, perhaps implicitly linked to our muscular sense, as our movements may fluctuate, tending to a more or less broad field of simultaneous and undefined intentionalities. I extend this idea to the tensional field of proprioceptive swarms as they compose inward and reach out to multiplicities. A Heraclitan–Nietzschean view of the world as tensional field can be enriched by proprioception's multifaceted dance, its blurry polyphony of tensional and torsional fields, its endless and nongeometric fractality.

Intentionality as a linear vector assigned to a singular origin or motor of desire is a retrospective projection stemming from Aristotle and linear thinking–moving. Defined intentionality and desire are rare vectorial outgrowths within much more diffuse fluctuations of the fields that we are. Purposeless wandering is the primary activity within which animals happen to find food, shelter, or mates. Can we shift, then, from the subject (as subjection to perspectival frames that reduce and atomize into a fiction of unity) to a *metaject* or *metabody* — as relational, in movement and transformation, a consistent but open field, a multiplicity in variation?

> *We should be interested in perception* [...]. *Above all because we should combat hatred against others. Our generation thought that the basis of egoism was economic:* [...] *But there is more:* [...] *Skilful alchemists of the mind can fabricate ready made perceptions, caricatures,* [...] *in order to install a single category of perception of the other* [...]. *Tolerance demands a generous and kind perception based on the richness of differences.*
>
> — Alain Berthoz (1997, 189–290, my translation)

> *For a person or a people to be free their senses must be vibrant. To destroy the senses is to destroy the people. The primitive dictatorship of the Nazis was child's play* [...]

> *compared to the sophisticated destruction of freedom by American industry* [...]. *The very means by which we perceive the world are being attacked. Fascism has to do less with guns than it has with robotism* [...], *the master's rule and the slaves respond. And both are caught in the deadlines of their empty lives, the rigidity of their desensitized bodies.*
> — Marco Vassi (1976, 163)

## 2.6 Proprioceptive/Metaceptive Politics

### 2.6.1 Defeating Choreography

Can proprioception be reduced to lines or stories? Its alignment in geometric environments is precisely what I will expose in the theory of the Algoricene. But there will always be fluctuations in proprioception that will exceed any alignments. This irreducibility is the one that some body despisers want to get rid of with their dreams of mind-uploading through AI and immortality. What about learning to live and cultivate this irreducibility as our most splendid source of richness in life and experience?

A politics of the fluctuating–flocking body highlights the irreducibility of movement bodies (understood as proprio- or alloceptive fields) to lines and points, to segments that can be organized from a certain outside. The flocking body is *irreducible to choreography*.

Lying on the grass, the body, disaligned from the perspectival windows, takes the time to stretch and explores new proprioceptive sensations and multisensory integrations. The range of possible orientations, contacts, and rhythms opens up. This is what is at stake in many dance improvisation practices.

The choreographer William Forsythe gives the key to this issue when he says:

> *The purpose of improvisation is to defeat choreography*, to get back to what is primarily dancing. I consider choreography to be a secondary result of dancing [...]. I want to make things which are irreproducible due to their temporal complexity [...]. I think the biggest difficulty in the type of improvisation we practice is not consciously shaping your body, is actually letting your body fold and to develop a more reactive and many-timed body as opposed to a shaped body. At any given moment, you have to be able to say: what is the potential of this configuration of my body [...] with no idea how it's going to turn out. For me, that would be a truly successful dance, because *the body would take over and dance at that point where you had no more idea* [...] *just not knowing and letting the body dance you around.* (2003, 24–26, emphases mine)

Choreography is the very possibility of repeating and controlling movement.[57] One could argue that it's also the possibility of composing it and often in highly creative

57 In "Choreographies of Gender," Susan Foster claims choreography rather than performance and performativity as more overarching trope for understanding the cultural production of gender, as happening mostly in spectrums of movement and embodiment that exceed the linguistic. For her, choreography includes improvisation and she seems to propose a more fluid schema of "constructs" in continual adaptation as "slowly changing constellations" (1998, 17) embodying sets of values of which performance is an individual execution. She turns against the idea of dance being the "fleeting and elusive mother of the arts" and claims its crucial role in the production of power and cultural

ways. But resonating with Forsythe, I argue in favor of practices that foster emergent movement compositions of irreducible complexity, perhaps in-between improvisation and compositional practices. In the words of the conductor Wilhelm Furtwängler (1983), there is a *law of improvisation* underlying any compositional process, where the composition is based on an improvisation which lies at the core of the creative process.

> [*I*]*f we desire to do more than simply dwell in environments that reveal to us what we already know about ourselves, or reinforce the complex of habits that automate our habitus, then we will find ourselves compelled to speculate about and produce aesthetics that enable our bodies to realize unimaginable performances.*
> — Tom Sparrow (2014, 234)

### 2.6.2 Plasticity and Flexibility; or, How to Mobilize BI for Resistance

I build upon Catherine Malabou's (2008, 12) definition of plasticity as the capacity both to create and dissolve, and Hayles's (2012, 12) rephrasing of it as the capacity for resistance and reconfiguration. Plasticity is to be differentiated not only from rigidity (the imposition of static alignments), but also from flexibility, which, following Malabou, is closer to the capacity for passive adaptation to a changing environment (as in global capital and digital culture). Malabou also differentiates plasticity from elasticity, in that plasticity allows for reshaping but not a full rewinding. As such, it creates histories.

Flexibility in algorithmic ecologies (where we adapt to the reorientations given by quickly changing digital affordances) supposes reversibility, as when we click on the undo button of the keyboard. In the digital world, everything is supposed to consist of steps that can be rewound back and reorganized seamlessly. This is enabled by the radical segmentation of movement in algorithmic ecologies and code and is at odds with the irreversibility of movement outside digital and mechanical scenarios.

Elasticity can account for the local openness of nodes (proteins or limbs), but their overall coming together creates memories and nonlinear histories, time as irreversible movement. The nihilistic tendency of algorithmic technologies is to create a fully rewindable and controllable algorithmic world, which implies erasing everything nonalgorithmic and thus fluctuation itself. Would such a world ever be possible, or even desirable?

My individual limbs may have more or less elasticity, leading to a greater or poorer versatility of gestural and postural configurations, but as these multiple elasticities come together (swarming up from proteins folding), they create an irreversible and nonlinear history embedded in all the folds of matter, in my memory, experience, and capacity to unfold new variations.

inscriptions and thus in a politics of difference. Here she is taking distance from positions like Derrida's, for whom dance is more to the side of the elusive escape, useful for a "polysexual" politics but not for one of difference (Derrida and McDonald 1995). While Foster is right in criticizing the one-sidedness of the nonchoreographic conception of dance, Derrida builds here upon a Dionysian politics of *différance* that claims the ambivalent middle term, very much like he did with *khōra,* where dance is also a spacing. In turn, I place dance as the more overarching trope that can at times become choreography, but whose main drive is improvisation as more dynamic and transformative process along degrees of a spectrum.

Memory in its most primordial form is in the elastic movement of the folds of matter (protein folds), its genetic extension (DNA folds), and its neural (synaptic) extensions and correlations. In genetics, "code" comes from movement, and not the reverse. It is part of movement and expression fluctuation, not an *a priori* for it. Thus, one can understand the intrinsic openness of genetic and epigenetic processes. Folds are not only core to proteins, but also to DNA, and even the Earth's geology is made of folds. Memory is never a data set: every time we remember, we transform. The purpose of memory is to afford new and deeper sustained variations.

Funnily enough, degeneracy is the name in biology for how similar functions come to be performed by structurally different components. Life seems to be degenerate in principle! Multifaceted, protean, changing, complex. Functions, rules, and causalities are rare side effects.

In *How We Think,* Hayles (2012, 12), discusses Malabou's distinction between neural plasticity and neural flexibility, the latter being more associated with the modes of dispersed (hyper)attention in digital culture and global capitalism. "Whereas flexibility is all about passive accommodation to the New World Order, plasticity has the potential for resistance and reconfiguration" (101). Hayles however points out that Malabou's response is limited to the possibilities of conscious action, and goes on to say, "but as we have seen, unconscious and nonconscious levels of awareness are also affected (arguably even more than consciousness) by the accelerating pace and 'flexibility' demands of global capitalism. How can they be mobilized for resistance? For this Malabou has no solution" (102).

This book can partly be seen as a reply to Hayles's question, rephrased as*: how can nonconscious experience be mobilized for resistance in the face of flexible and dynamic forms of domination that exceed rational agency?* What kinds of neural–motor plasticity[58] can we infuse into our ecologies that would not limit us to an agency grounded in the privileged but narrow and reductive conscious awareness of the rational subject? This raises crucial issues for the reinvention of political agency in times when power has largely become an unknowable business of emergent algorithms constantly reengineering our environments in nonconscious ways. Nonconscious resistances, agencies, or guerrilla actions need to be thought.

Our journey beyond the infinite is inside the body, in the proprioceptive swarm.

58 For an account of plasticity and embodiment more grounded in phenomenology yet also looking beyond it, see Sparrow (2014). Tom Sparrow makes promising moves in building upon the zones where Merleau-Ponty seems to extend in Spinozan, Deleuzean, or Foucauldian directions, amongst others. Yet through Catherine Malabou there is still a remainder of a dialectics of plasticity that moves between taking on form and dissolving or exploding it, and of the tension between tending to a habitus that stabilizes and sometimes rigidifies versus the opening up to new experiences, and between adaptative preservation and creative transformation, as two poles of a spectrum, where the tendency to stability seems to have a certain *a priori* nature, whereas novelty needs an explanation. Still, the concluding pragmatics point in a direction close to the ones of this book in proposing that "the practical purpose of aesthetics would be to promote experiences that sculpt our sensibility and intensify the body's capacity to act," where "the freedom of the body, then, is an expression of how it is (ontologically) determined within an assemblage," and "the power of plasticity faces the constant threat of fixity, homeostasis, sedimentation, conservatism, dogmatism, intolerance." Crucially, freedom is related to sensorimotor plasticity, so that "censorship is enforced sensory deprivation" and "to be free is to understand as much as possible the myriad ways in which one's body is acted upon, restricted or enabled, by the bodies composing it as an individual — in other words, how individuals are determined" where "education's purpose is to exercise our plasticity" (Sparrow 2014, 223–35).

> *It's possible, too, that there is no such thing as one clear line or strand of probability, and that we live on a sort of twisted braid, blurring from one to the other without even knowing it, as long as we keep within the limits of a set of variations that really make no difference to us.*
> — Joanna Russ (2010, 6)

### 2.6.3 Perceptual Generosity

What I am proposing here is an expanded notion of perception that takes theories of embodied and enactive cognition[59] further by saying that *not only does perception emerge from movement, but the entire field of relations of which we are part does as well,* and, most importantly, that *this can happen in infinitely varied and more or less plastic ways.*

The usual way of thinking multiverses as strands of probability within the thinkable alternatives of causal lines (in this world I have a white cup in my hand, in another the cup is red, in another I am a woman, or a dog–human hybrid, etc.) takes the chunked world of categories, the Algoricene, for granted. Chunking, or segmenting movement and the world into pieces that can be measured, categorized, and appropriated, requires first of all splitting oneself from that world, and aligning oneself and the world in a geometric set of movement relations. But what if multiverses were always already going on as long as we opened ourselves up to a less chunked and more swarming, autistic, or childlike kind of perception?

*All potential universes are already in this one.* Say that in this room I only see particular things which I have learned to identify. Another person, with different interests, habits, or perceptual biases — a neurodiverse person, or a neurotypical subject coming from a different environment, or a nonhuman body (say my dog-friend) — would perceive something quite different. They might focus on other things, see things I don't see, or not see clearly bounded things at all, but rather emergent relations of movement or forces, of which they are inseparably a part. This is actually the kind of reality I propose that you perceive throughout this book as proprioceptive entanglement wherein some salient parts may stand out, but never to the point of complete segmentation and categorization (this is the undesirable zero limit I propose for a politics of perception). This implies that multiverses are in our daily experience if we open up to them. They are around the corner, in others, and in ourselves. We just need to move in a new way in order to perceive in a new way, in order to craft ourselves a new world of intraductions where, by relating to others, we can continually mobilize our field, getting hints of other possibilities that shift it.

If you move in just one way, you will see just one side of things. Narrow perceptions underlie all forms of systemic violence. Broadening perception[60] is crucial for evolution as variation and for plurality.

59 Enaction is perceptually guided action. See Varela, Thomson, and Rosch (1993, 173). This was expanded in the section "Beyond Radical Enaction" above.

60 The question of the need to broaden perception appears already in Bergson. Since the problem giving birth to philosophy (or at least metaphysics) was, according to him, a wrong conception of movement related to a *narrowing perception* that felt itself incapable of dealing with the world, what we need to do, he claims, rather than turning our backs on perception, is to go back to it, to enlarge it (Bergson 2007, 110). "Distinct perception is merely cut, for the purposes of practical existence, out of a wider canvas" (113). Here, Bergson resonates with William James, who in turn resonates with him. Bergson speaks about embracing a more complete perception, "removing its blinders,"

### 2.6.4 Kinetic/Autistic/Swarming/Nonreductive Thinking and Neurodiverse Ecologies

This book proposes to cultivate a mode of thinking that we can call kinetic, swarming, autistic, diffuse, embedded in movement, not based on the suspension of movement, not tending to freeze the world in forms, points, geometries, and reductions, an indeterminate and varying thinking that moves with the multiplicity of the world contributing to its variation, a radically embodied thinking that never dissociates itself from the body's movement.

This book is about embracing the varying, irreducible, and ambiguous multiplicity of our perceptions without attempting to reduce them. We don't share a homogeneous world. We have extremely diverse perceptions and live in parallel ecologies or worlds that sometimes connect or compose with each other, but not always. Often the wrong idea that we share a single world imposes itself, giving way to domination. Sometimes our closest person, say our partner, can have radically different perceptions or proprioceptions, sensitivities, rhythms and microrhythms, modes of spacing and attunement. They may focus on entirely different things than us, and the most subtle variation in our proprioceptive histories accounts for this radical diversity. It is not an issue of essentialist neurological formations. It has to do with the subtleties of how we move, and how these craft the peculiarities of our perceptions as irreducibly complex and diverse histories of kinaesthetic, multisensory, and molecular movements coming together as a memory. In longer spans, these differences also craft genetic and neurological evolutions. The openness of memory including genetic memory is also the openness of our potentials and capacities to move.

Behind norms, habits, common sense, violence, and domination are ways of perceiving that reduce the richness and complexity of perception. We need to recover a richer, more generous perception and sensory experience, one that doesn't impose on others a particular and rigid way of perceiving. *Relational freedom is about perceptual generosity and sensory plasticity*. A *radical democracy of perception* demands plastic perceptual ratios.

This book invites the reader to share and build upon a nonnormative, neurodiverse, and nonreductive way of perceiving. It doesn't think things as they are usually perceived within the predominant Cartesian and neurotypical tradition as discrete and bounded objects of thought. Instead, I invite the reader to think only from movement, as a more indeterminate, blurry sense of becoming-with and in relation to the worlds we are part of. It's about *propriocepting* the world and ourselves in the same process.

This book could be seen as an essay in *quasi-autistic thinking,* in thinking without ever taking for granted actual things "as they are" or "concrete" space as a preexisting container for them. This is in the sense of Manning's concept of *autistic perception* as a mode of perception that is continually opening up to the uncategorized (2016, 14), thus a *nonreductive perception.* I share here my own quasi-autistic or proto-autistic sensibility, characterized by never fully being able to read the normative signs,

freeing it (115). Art does this all the time, and philosophy, he claims, could do it "for everyone" in a process of revivifying experience away from its freezing in immobile schemas (2007, 118). See also Gebser (1985, 23) on the relation between fanatism and the "tunnel vision" coming from perspective. See also Berthoz on perceptual generosity, as in the quote opening this section. Vassi (1976, 163) or Eric Sadin (2015), amongst others, have also done claims for the importance of sensory richness for freedom.

always moving in-between and outside them, vaguely resonating in an unformed landscape, never wanting to fully format my perception, abhorring the defined and calculable, and actively resisting it. I thus bring you into my perceptual world. The quasi-autistic mode allows me to move in-between worlds and question the world of more reductive form-oriented perceptions, whose domination I seek to undo. It allows me to deepen the plastic possibilities of our proprioceptive field. But anyone can dive in that field too, although it is likely that one will linger in the shallow waters for quite some time. It's deeper than the ocean.

In my neurodiverse perceptual mode, I seldom look for patterns around me. Even if I can recognize them, I have a resistance to aligning myself with them, looking instead for attunements with microrhythms, blurry visions, emergent tactilities, and amorphous movements. This continuous being out of place has allowed me to perceive as a sharp-edged jungle of artificial matrixes what others see as common sense. Form is the WEIRD (Western, Educated, Industrialized, Rich, Democratic) abstraction that detaches and imposes itself. Instead, the microrhythms I elaborate in my relation to everything around me (whether visual, sonic, or muscular sensations) are amorphous, free of form and stasis, but not abstract. They keep moving, varying, and are immanently bound to their field of emergence.

Since I also do partake in normative modes of reasoning, I can move across worlds. From that privileged queer movement across boundaries, the predominant concern with patterns appears to me a very striking cultural obsession, that will perhaps leave future generations astonished.[61] This book is an attempt to uncover the underlying movements of that obsession and move beyond them.

Manning claims that *autistic perception is the fundamental mode (or broader field) of perception* from which neurotypical categorizing or chunking emerges. I further propose that chunking is a contingent and problematic outgrowth of this broader field of autistic perception, needed only in the dominant environments in which it came about or which it contributed to create. Thus, the challenge is to transform the entire ecology, opening it up. The anomaly is the closing down of categorization.

Saying that neurotypical perception is an anomaly follows the double reversal proposed by a Radical Movement Philosophy, which claims that reduction and domination are an anomaly in movement. Neurotypicality is not to be essentialized as a "normal" (epi)genetic condition of a body. It is a particular way of learning to align oneself with a historical and reductive norm, a particular world of categories that is neither essential nor desirable. It is only a small zone of the potential movement spectrums.

Neurotypicality also bears some pathological cultural traits, as it seems to be largely grounded on proprioceptive atrophy, and domination implies reduction by principle. As was said, *proprioceptive atrophy is the real disability*. A neurodiverse and plural culture demands perceptions to be less aligned and movements less linear, so that BI can flourish in its nonlinear, swarming variations. A saner culture will be *intrinsically neurodiverse,* avoiding the imposition of one dominant perceptual or thinking mode on others, and reduction and atrophy as condition for social, liveable life.

61 See Hayles (1999, 192) on such cultural assumptions, like the belief in disembodied information or in linguistic constructivism.

### 2.6.5 Metaformance Environments as Metatherapies: For a Neuroplastic, Neurodiverse Culture

Over the past years, especially since 2017, I have been experimenting the potentials of *indeterminate affordances,* like the ones I design in the Metatopia environments discussed in Book 6, for promoting neuroplasticity and neurodiversity: environments that don't impose a singular sensorimotor (and affecto-cognitive) logic, but which allow every diverse body to create itself an open field of relations that in turn allows to undo entrenched patterns of behavior.

For this I have done research with my Metabody project colleagues Rubén Lopez Cano from the Escola Superior de Música de Catalunya Barcelona and Alicia Peñalba from the University of Valladolid, along the collaborations done every year in Metabody Madrid with groups of people with neurodiversity and sensorimotor diversity, which has been published so far in Lopez Cano and Peñalba (2018), Del Val (2018b), and Del Val, Lopez Cano, and Peñalba (2021).

In the last of these papers, we extract four main conclusions from the interviews and interactions happening in 2018 and 2019, but also of the broader experiences done in Metabody working together with people with neurodiversity and sensorimotor diversity.[62] These conclusions imply that the Metatopia environments allowed people who were normally hyperactive to focus for long periods, people who were normally inactive to activate themselves, people with repetitive movement patterns to vary them, and people who feel insecure when moving or standing to feel safe and explore the environment.

These lines of research should be applicable not just for people qualifying as neurodiverse or other-abled, but also for people considered neurotypical or abled, since the latter are those who have narrowed down their sensorimotor and cognitive potential by aligning themselves with a dominant mode of linear moving–thinking to which some bodies are resistant.

Metatherapies imply the need to open up excessively narrow dominant alignments toward an intrinsically neurodiverse, neuroplastic culture that embraces not just diversity but also indeterminacy in behaviors, architectures, movements, perception, thoughts, and relations. Conditions for this need to be created through sensorimotor techniques of disalignment which are discussed in Book 6. This implies redefining space away from our rigid, right-angled architectures that imprison bodies in atrophied Cartesian grids that in turn cover the planet, disrupting it.

#### *2.6.5.1 Toward a Non-reductive, Radically Embodied Knowledge and a Kinetic Thinking*

Embodied knowledge is in the actual rhythms in movement, which are always relational and expanded, improvisational and in variation, as in a flock or dancing chorus. This is missed by Bernard Stiegler's organology which describes externalized memory in "tertiary retention" technical systems (books, records, computation, etc.) but does not account for the always already extended and relational nature of embodied knowledge in animals, plants, bacteria, and of course human cultures like nomadic gatherers. This understanding allows to differentiate between modes of embodied knowledge and extension, whereby books and computation are expression

62 See "Metabody y neurodiversidad," *Metabody,* https://metabody.eu/es/neurodiversidad/, for a summary of these experiences.

of an age of accumulation, abstraction, dominion, and homogenization inaugurated in the Neolithic with the enslavement of animals and the appropriation of the land, where embodied supports of knowledge tend to replication and fixation, minimizing variability and abstracting themselves from bodies and environments. What needs to be claimed back is an embodied knowledge that, while being extended and relational, neither abstracts itself from bodies and environments, nor accumulates, fixes, and dominates, but is in immanent variation with the world.

Kinetic thinking avoids suspension of movement and self-referentiality, it is a thinking of the body on the move, it is the rhythmic thinking of the moving body, minimizing the role of self-referential neuronal states and their mental–verbal chatting. At stake is to overcome the age of dominion of linguistic and other abstractions by claiming the broader field of BI and its non-verbal, more-than-verbal matrix. This is crucial for undoing the human supremacy divide and self-rewilding ourselves, becoming animal in a far deeper sense than proposed by Deleuze and Guattari: away with human dominion and its Earth-killing abstractions.

## 2.7 Epilogue: BI as Metahuman R/evolution

I propose something unprecedented: a real, deep, complete mutation of the "human" species, in order to stop being the planet's nightmare. A techno-epi-phylogenetic mutation to be started immediately through the most powerful and subtle tool which is at every body's disposal. This is our movement.

The core evolutionary challenge that we face is how to develop a nonreductive kinetic intelligence. This is the purpose of metaformativity. The idea is simple, once we have radically reconceptualized what movement is and diagnosed its reductions. The more a body's internal indeterminate proprioceptive fluctuations–variations are impoverished, together with multisensory integration, the less it is capable of transformatively recomposing itself with the world, entering a spiral of increasingly detached and abstract thoughts that externalize themselves as geometric environments where movements, devoid of their fluctuating richness, homogenize, align, expand, and accelerate further, imposing themselves on other movements. Movement stops being driven by internal fluctuations entangled with their fluctuating environment and becomes the linear trajectory in an abstract homogeneous space (fig. 12).

Why this happened with the *sapiens* is a mystery. In the Book 5 on the Algoricene I expound a possible articulation–separation hypothesis for this, based on proprioceptive atrophy emerging with bipedalism.

Movement is the node from which to undo this epochal reduction. The body that constantly shifts internal relations between all its parts is feeling the world and recomposing itself with it. If we regain the internal sense of fluctuation, one could perhaps effectively rebalance verbality with the neglected nonverbal spectrum, building upon all the research stemming from the arts, infusing an infinite richness in our relations. Is this an option or would reduction always come back? In order to avoid this, a deeper sustained epigenetic mutation is needed! A reversal of the mutation by which the *sapiens* emerged.

The new species will be a metaspecies, in symbiotic variation with the world.

…

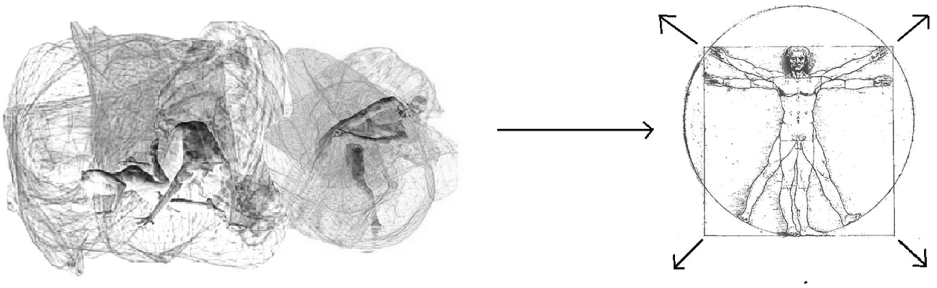


*Fig. 13.* Reduction–expansion hypothesis. Reduction of internal variation leads to homogenizing expansion–domination. Acceleration is an effect of this alignment.

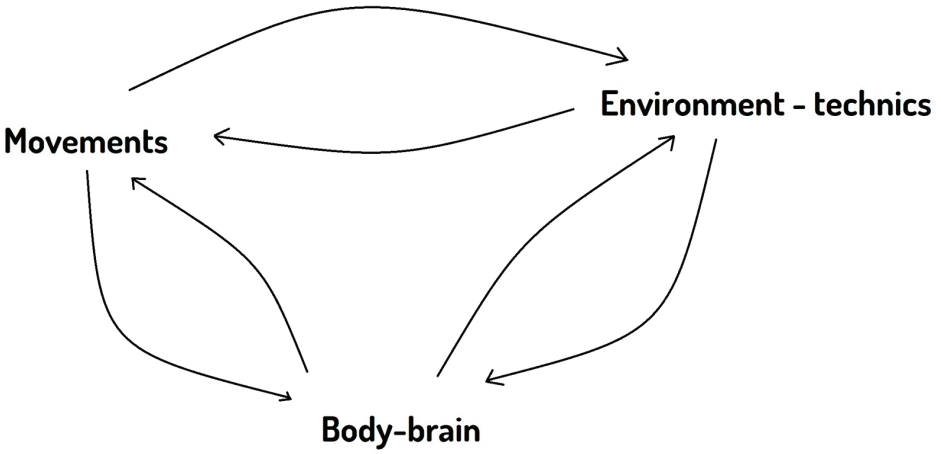



*Fig. 14.* Kine-neuro-ecoplasticity (or kineureco-plasticity) diagram.

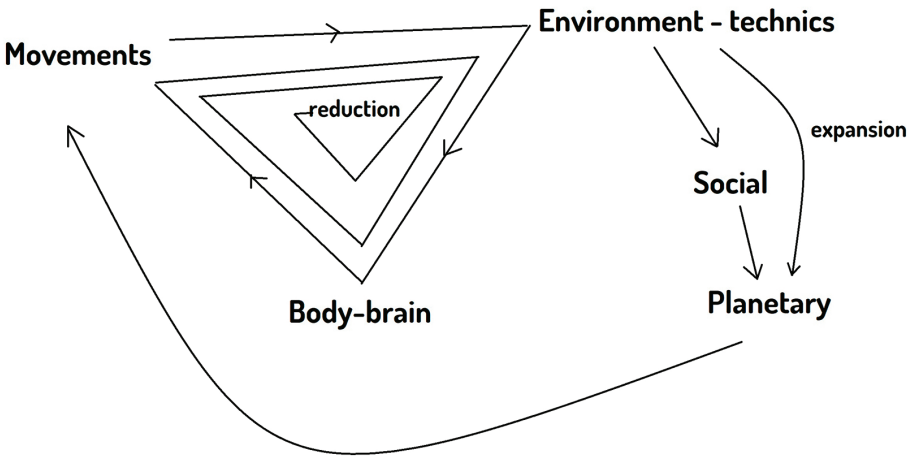



*Fig. 15.* Reduction–expansion diagram.

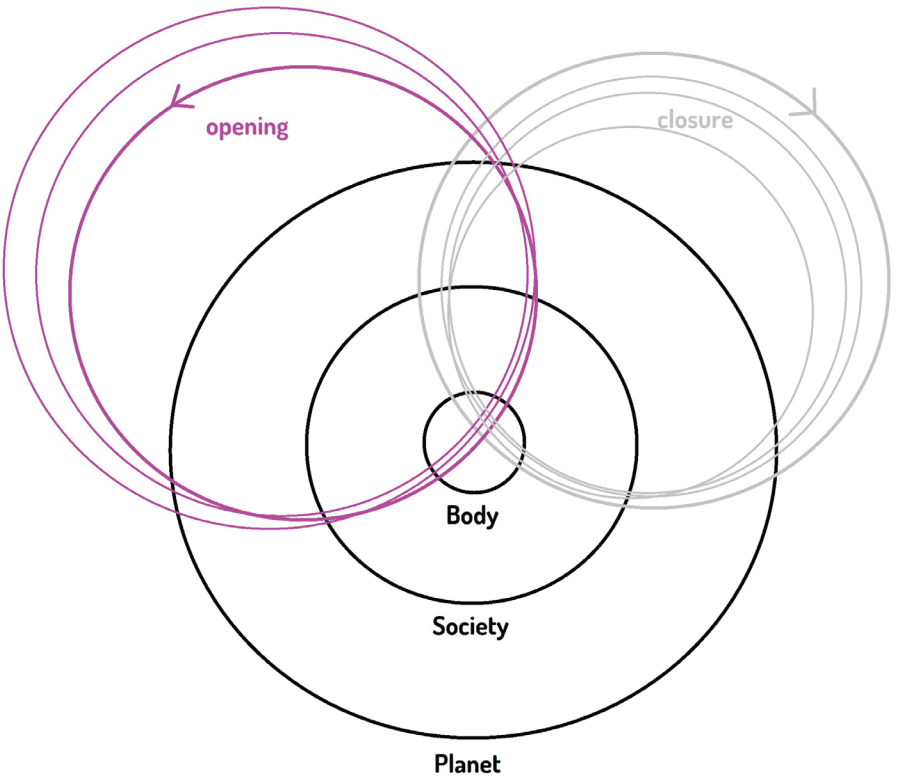



*Fig. 16.* Countermovement diagram.

The *kineplasticity–neuroplasicity–ecoplasticity* relation hypothesis exposes the entanglement between *movement, environment,* and *body–brain.* Movement engineers both, in a recursive and reciprocal *techno-epi-phylogenetic* spiral (fig. 14).

The more the spiral narrows, the more it expands, imposing itself, incapable of recomposing with the world (fig. 15), so that a countermovement (fig. 16) is needed based on the same principle: regaining the lost sense of movement. Just like reduction has become social and planetary, so should its countermovement imply a social and planetary regeneration. This also implies moving with others in reciprocal recomposition, cosensing, comoving, cocomposing (*symception, symkinesis, sympoiēsis*) (figs. 17–18).

This implies recomposing with everything, so that there is no longer displacement. The wrong idea of displacement is intrinsically violent, as it presupposes the passive inert status of an abstract space (the entire planet and beyond). Instead, when we move, we fluctuate, and are affected by everything around us and affect it in return, transforming both our inner field and the world. Letting the body fluctuate is a means to undo the extinction vortex, unfolding behavioral indeterminacy and new, more plastic, *kinetic intelligences.* From the movement fields that we are we can undo the closures across all fields.

Since bipedalism started to implant itself, we increasingly tend to *move like a block*: walking, talking, typing, lying in the sofa, even in activities that could offer more possibilities for variation, such as sex, dance, physical exercise, and so forth.

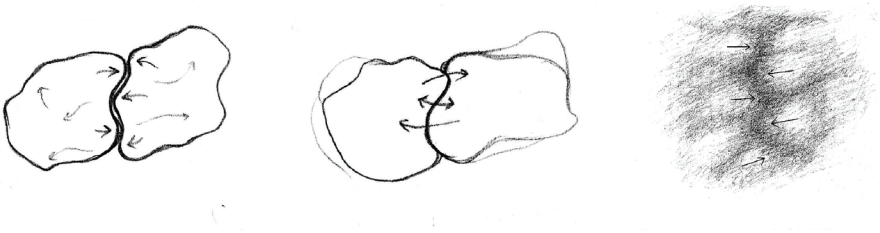


*Fig. 17.* Cosensing diagrams. Mutually cosensing and recomposing undoes the active–passive dualism: Each body is a fluctuating field recomposing in many simultaneous ways with the other body

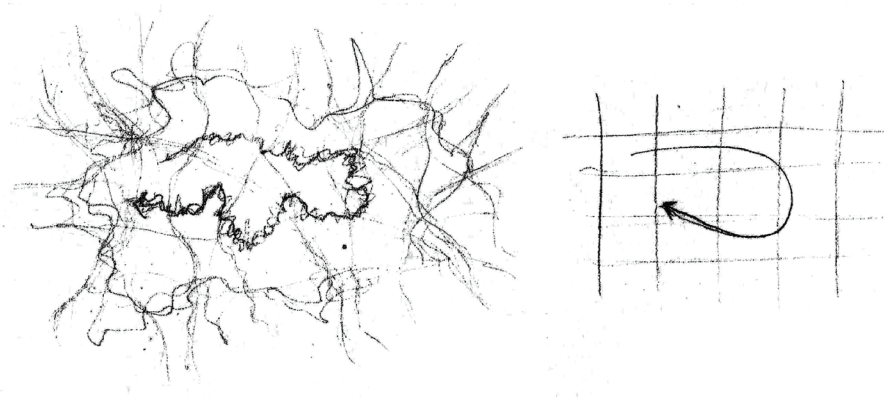


*Fig. 18.* Comoving diagrams. To the right the ontoviolence of considering space an abstraction for calculable movement trajectories, to the left a similar "trajectory" which fluctuates and recomposes with its surrounding fields that are also being transformed by all the movements happening in it, composing it. *This fluctuating wandering, anchored in full-body proprioception, is actually how nonhumans contribute to the overall movement of biodiversification in evolution!*

Instead, I propose to move more like an amoeba. Blocks versus amoebas, fixed points of vision versus proprioception.

Swarms and waves of neurons make thoughts come by themselves but linked to the entire nervous system. You can mobilize them by moving–sensing. Thinking as immobile or aligned body cannot but be self-referential, abstract, and disconnected, enclosed in the circuits of bad conscience and resentment, thinking in fluctuating disaligned motion is instead a plastic relational thinking, joyful, transformative. This is exactly what is implied in Nietzsche's *Ecce Homo*: "Sit as little as possible; don't trust any idea that was not born in the open air and of free movement — in which the muscles do not also celebrate a feast" (2012, 24, translation modified).

Moving in a disaligned fluctuating manner unleashes chemical processes in the body. You feel high without drugs, and you can cultivate it without addiction. It allows you to disalign from any addictions (whether screens, toxic affects and relations, or chemical substances), it reopens the closed sensitivity, makes you resistant and resilient, it unfolds nonlinear capacities for thinking, a deep vitality which is not about imposing oneself but about varying as you compose yourself with the world. Will to power of variation!

This implies undoing the dominance of verbality and rationality and their basis in atrophy and alignments, toward a neurodiverse, metaspecies, BI r/evolution!

# Radical Movement Philosophy
## A Radical Field Theory

### 3.1 Radical Movement Philosophy

#### 3.1.1 There Is Only Movement, But What Is Movement?

Newtonianism is a resilient ontology. Its mechanistic worldview still pervades much of our worlding and moving. The idea that movement is the measurable trajectory of a body in a measurable space is a longstanding and tragic error, on which imperial cultures of control and domination have been grounded and continue to evolve. We grow in gridded houses within gridded cities and learn that measuring things is the universal value and reference for objective truth, with qualities of experience considered "subjective" and of lesser importance. Aligned with fixed points of vision, we believe in the planetary illusion of the fixity of things.

I propose that this predominant idea — of movement as the trajectory of an essentially unchanging entity — emerged as an anomaly within other modes of thinking but made itself dominant by shaping our very perception. In overcoming the mechanistic tradition, I propose to redefine movement both as field and as fluctuation: as fields fluctuating, or as fluctuation fielding forth in variation.

We have inherited dominant ways of thinking what movement is that stem precisely from the tradition that seeks to reduce it, eliminate it, or dominate it. This epochal mistake needs to be completely undone.

Movement is the change in distributions of energy density (fluctuations) or the dynamics of internal changes and relations composing fields. These changes, and relations between changes, are the primordial characteristic of movement understood as quantum fluctuations, that is, indeterminate variations of energy density from which the entire universe unfolds.

My elaboration of this premise will imply questioning, and even denying, the basic assumptions of mechanism, including displacement, immobility (form and posture), quantity, step (and sequences of steps, or algorithms), repetition (choreography), as well as control and conscious awareness linked to individual desire (stemming from Aristotle's ideas on locomotion). I will instead propose to think the ontological indeterminacy of movement fields and their self-organizing dynamics as motor of evolution, propelling a movement of ongoing variation.

Movement is ontologically prior to all the metaphysical categories that have tried to frame it, including space, form, pattern, trajectory, point, quantity, fixity, object, image, being, matter, time, force, and mind, amongst many others. In Radical

Movement Philosophy (RMP) there is no being, there are fields whose indeterminacy actively resist the concept of being. This book will account for the consistency of the open, of becoming without being, through the concept of metabody. Force is also a secondary term that can describe certain dynamics in movement, when entangled momentums create distributions of tension that may be understood as relations of force.

RMP states that movement is metaontologically indeterminate and indeterminable, defined through the trope of the fluctuating field, as relational and in never-ending, mostly minimal variation. Movement is irreducible to form, trajectory or quantity. Efforts to determine it imply reducing it and block the evolutionary variation of a field, whether local, planetary, or other.

RMP thus exceeds ontology, idealism, and materialism, pointing instead to a kineticism and an indeterminism, or *apeirokinetics*.

RMP proposes a formless metaontology, kinetology, or apeirontology.

RMP redefines movements, worlds, and bodies as formless fluctuations fielding forth in variation–diversification, *enferentially*.

RMP is a *(meta)ontokinethics*: a redefinition of ontology and ethics through movement by redefining the reality of movement itself. It is a *metakinetics*: relational, transformative, indeterminable, and open movement of fields and movement as a process of fielding forth.

RMP is a *meta-metaphysics*: a relational physics of transformation that overcomes metaphysics of being.

...

As was advanced in the preface, RMP is a turn toward thinking that (1) there is only movement; (2) movement is intrinsically indeterminate and irreducible to form or quantity; (3) this irreducibility is core to evolution as variation: the attempt to reduce the indeterminacy of movement is currently creating a mass extinction on Earth, an evolutionary paralysis; so that (4) these epochal reductions need to be diagnosed and undone, toward new evolutionary and cosmic variations.

RMP redefines movement (as well as bodies, perception, and intelligence) and therefore matter, organic life, ecosystems, societies, technologies, languages, and so forth as fluctuating fields, entangled and in variation. RMP does away with the grand immobile chimeras of being and mind, form and quantity.

RMP proposes that movement has not only endless modes and variations as expressions of quantum fluctuations, but that these modes have diverse degrees of openness or indeterminacy along a spectrum. We are now witnessing a radical closure through the epochal becoming-calculable of movement in the Algoricene, the age of algorithms.

Form is not a feature of movement but an epochal means to reduce it, dominate it, a recent invention of agricultural and geometric societies, and its associated perceptions. RMP proposes a formless account of movement where the consistency of the open unfolds through the trope of the fluctuating field.

Form, pattern, trajectory, and quantity need to be radically questioned as part of the morphocentric tradition, the becoming calculable appearing in the last 10,000 years on Earth.

The Algoricene or Morphocene is the geological epoch of becoming calculable and becoming pattern of movement, subject to choreography and codification,

unleashing a panchoreographic of world reduction that is unleashing an unprecedented mass extinction.

…

RMP claims that movement is always ontologically indeterminate. Movement doesn't create patterns, rather, it creates formless fields of variation irreducible to patterns and to quantification. In that openness lies the capacity of those fields to vary, propelling evolution as movement of increasing variation.

RMP defines movement as irreducible to patterns. The attempt to reduce it to controllable patterns is the epochal tendency causing a planetary crisis, as it implies a systemic impoverishment, determination, and closure. Radically redefining movement without seeking recourse to the notions of trajectory or form demands a metaontology without being, of formless fields of fluctuation-in-variation, which implies redefining bodies, perception, and intelligence.

RMP proposes to overcome the actual–potential or actual–virtual framework by claiming the metaontological indeterminacy of movement, its irreducibility to determination, always and everywhere, but to different degrees.

…

RMP proposes that the universe is not governed by an entropic law of dissipation. Instead, it is dominated by an active force of fluctuation and variation. RMP proposes a Quadruple Law of Fluctuation or Enferance Law as an amorphogenesis principle that reverses the quadruple Aristotelian law of causality. Building upon the primacy of quantum fluctuations in contemporary physics, we argue that fluctuations propel a never-ending active movement of variation and fielding: everything fluctuates indeterminately, yet this implies an active process of variation and diversification, which expresses itself in the evolutions of a chaosmos. A body is such a fluctuating field whose metaontological indeterminacy we need to claim and activate.

RMP names *clinaos* as this active principle of indetermination or openness (after Lucretius and the ancient etymology of chaos), the process of variations-as-diversification propelled by it is named intraduction (combining Barad's intra-action and Simondon's transduction), and metabodies are the endless fields unfolding in the process of chaosmic *n*-volutions, as consistent but open qualities, affects, resonances, memories. These unfold into a microaffective microspacetime and microsexual ontology, further elaborated as modal metasexuality and leading to an orgiastic ontocosmology.

In Book 4, swarming chaosmology exposes an orgiastic theory for the *n*-volutions of this chaosmos and Earth through an F5 theory: of fluctuations unfolding as formless fields through *foams–frequencies, flows–fusions, folds, flocks,* and the more recent anomaly of *form,* and the resulting alignments are analysed in the Algoricene theory in Book 5. Metaformance *technē*s are proposed in Book 6 as a means to overcome the reductive inflection of the Algoricene with a real mutation of the species that restores the capacity for symbiotic mutation by regaining the lost sense of proprioception.

…

RMP's proposal for a field theory implies reconceptualizing relations as prior to things relating. Relations between energy density differentials always imply fields in relation to other fields.

The idea of displacement also needs to be questioned, as it implies a narrow understanding of phenomena, resulting from a narrow perception based on linear perspective creating fixities and cuts within a field. Henri Bergson, and Friedrich Nietzsche before him, famously criticized this tendency of the intellect to introduce gaps in becoming, splitting movement into immobile points, as in the cinematographic mechanism, but he still considered it as necessary to practical life. I think this was largely due to the lack of an alternative to perspectival vision for understanding perception, which affords limited opportunities for overcoming the metaphysical tradition and its dichotomies.

At stake is to afford richer ways of thinking movement and of thinking–moving than the one prevailing in the reductive mechanistic approach: to think movement without attempting to reduce it. It's about developing new ways of moving with the world, the capacity to vary without imposing oneself, and plasticity. A science–art–philosophy–politics of movement should always enrich our movement–perception capacities, thus enriching our worlds, rather than narrowing them down.

I thus say, *let's reinvent practical life!*

### 3.1.2 How Movement Has Been Thought

The history of Western philosophy and culture since Parmenides is largely the history of setting limits to movement. This is associated with the history of domination: particularly in its most successful mode on Earth so far, which is arguably Western rationalism.

In Book 7, I will expand on this topic by means of a survey of the history of how movement has been thought in the Western tradition, starting with the pre-Socratics and their pluralities of attempts to think movement before the notion of space and displacement had become established. Here, one finds several promising attempts that could have evolved into a sort of field theory, of which the most accomplished is perhaps in Democritean atomism, where movement, in particular vortical movement, was equated with all kinds of change, including growth and qualitative transformation, and in Lucretius's *clinamen*. Another major pre-Socratic approach to movement was through the circular motion of heavenly bodies, associated with a superior intelligence because of its continuous, orderly, "eternal" nature.

The first philosophers were concerned with nature as movement, change, and becoming, and with movement as equivalent to life, intelligence, and soul. Movement was considered prior to time, and space wasn't conceptualized in any strict or systematic way before Aristotle. Time, at least since the Pythagoreans, was already considered to come after movement and related to the orderly and measurable movement of the cosmos within a preexisting disorderly motion. Movement was the only *a priori*, as was its indeterminacy — the *apeiron* or boundless principle. This has been the core problem of philosophy from the beginning: to set limits to the unlimited principle, to determine movement's indeterminacy.

It was Parmenides who tragically introduced the notion of being and truth as absolute immobility, which Plato then unfolded into a dualist conception of eternal forms and the world of becoming, mediated through the formless receptacle which is his concept of space. Aristotle completed the triple turn to formal ontologies by inscribing form at the core of movement as its universal principle of causality and teleology: defining space as fixed and separate, displacement as the universal trope for movement, and pure thought as immobile, reflecting the transcendent immobile

mover — God. His causal conception and transcendent God survived and evolved through the Middle Ages, and with the advent of perspective in the Renaissance through Galileo and others gave way to mechanism and Newton's laws of motion, of absolute space and time, and to Cartesian space and the body–mind dualism. Though Gottfried Wilhelm Leibniz and Baruch Spinoza presented promising variations to the mechanistic worldview, it continued to reign supreme through Immanuel Kant and the empiricists. Following them, G.W.F. Hegel, and later Karl Marx and Friedrich Engels, attempted to formulate an alternative to Newtonianism, yet still without surpassing mechanism.

In the nineteenth century, thermodynamics and Darwinism, and later relativity and quantum mechanics, exposed the limits of mechanism, opening the way to numerous transformations, many echoes of which can be found in Friedrich Nietzsche. Nietzsche, and to some extent Søren Kierkegaard, performed a whole series of radical questionings of mechanism, but their most radical expression came with Henri Bergson. His questioning of the reduction of movement to divisible points, something Nietzsche had already denounced, went along with proposals to rethink movement, gesturing at times to field conceptions and to proprioception. But the most influential evolution of Bergson's proposal came with Gilles Deleuze's elaboration of the virtual–actual dyad, where actual movement is what is perceived as form, and virtual movement is the imperceptible, incorporeal, abstract movement of deterritorialization, recuperating ancient atomist conceptions of vorticity and the *clinamen* while opening up toward a field thinking.

Jacques Derrida's *différance* was another influential indirect take on movement with several offspring, including queer performativity. Alfred North Whitehead, Willian James, and Gilbert Simondon also influenced the development of new theories of movement — especially those based on the actual–virtual, that is to say, Deleuze's take on Bergson. The most elaborate are those of Brian Massumi and particularly Erin Manning, whose concepts of relationality, incipience, and field conceptions in relation to autistic perception have strongly inspired the writing of this book. Thomas Nail has developed a compelling movement philosophy, which I encountered upon completing this book and I will comment on in Book 7. From 2023, there is also Emma Bigé's ecopolitical movement philosophy, which I encountered even more recently. Several feminist thinkers have also elaborated promising tropes for an indirect rethinking of movement, including Donna Haraway and Karen Barad's take on diffraction, as well as Gloria Anzaldúa's take on the mestiza. Meanwhile, other authors — such as Michel Foucault and Henri Lefebvre or, differently, Bernard Stiegler — have provided tools to analyze particular types of movement organizations and rhythm in movement. From the phenomenological tradition, Maurice Merleau-Ponty also gestured to a field theory of movement, pointing again to proprioception but without elaborating a fully new account of perception to replace the dominant ontology of the fixed point of vision. This has been the most pervasive limitation to the development of a truly new way of thinking movement — a field theory which I set out to elaborate, hints of which can already be found in many sciences.[1]

1 The early twentieth century, for instance, saw an emergence of theories regarding the proprioceptive field, the morphogenetic field, and the quantum field, amongst others, though some, like the morphogenetic field, were discarded or lost relevance along the way. In *The Cosmic Web,* N. Katherine Hayles (1984) proposes the "field concept" as overarching theme that is at the heart of the new scientific and cultural revolution. It is defined mainly by dynamism, interconnectedness, mutuality, nondetachability of its component parts, inclusion of the observer, self-referentiality or immanence

### 3.1.3 Movement and Fluctuation as Sole *a priori*

Ever since the emergence of thermodynamics, an "entropic fear," as I call it, has dominated thought, according to which entropy as chaos defines a universal drive, against which life appears as a negentropic struggle. I seek to undo this dualist idea through fluctuation as source for a field theory of movement, and as intrinsically propelling a movement of variation.[2]

Fluctuation, as it appears in contemporary physics and cosmology, brings back and radicalizes many ancient pre-Socratic conceptions of indeterminate principles acquiring endless expressions, of a self-moving motor, and of the "only-movement" doctrine that "everything flows." Fluctuation, as I propose to think it, is itself both the seed and the propeller of universes as movements of variation.

Resonating with contemporary physics, I build upon the idea that quantum fluctuations, also called vacuum fluctuations or primordial fluctuations, are the seeds of every universe, which give it a particular and unpredictable tuning, composition, and evolution. They are the ontologically primary state underlying all phenomena and matter–energy itself, expressing fluctuation as the modes of movement, rhythm, and oscillation emerging within it.[3]

Fluctuations are indeterminate differentials of energy density. Fluctuation is the most primordial kind of movement, an indeterminate variation. Oscillations are periodic fluctuations. Vibrations are mechanical oscillations. Waves are propagating disturbance effects of vibrations or other oscillations and fluctuations, and so forth.

These indeterminate differentials compose fields as zones of energy density. Within zones of differentials arise new differentials, such as new fields, microcosms of fluctuations within fluctuations, differentials within differentials, fields within fields, propagating across other fields. This implies not only orders of magnitude (universes, galaxies, star systems, biospheres, ecosystems, flocks–societies–technical systems, affects, bodies, organisms, tissues, cells, bacteria, proteins, atoms, subatomic strings, and quantum foam), but also qualitatively diverse fields (diverse rhythms and vitality of every vibration, affect, and relation).

Fluctuation allows us to think openness or indeterminacy itself as the very matrix from which everything in a universe unfolds in a nondeterministic manner. It is the contingencies which arise in fluctuation that account for every nuance in a universe's unfolding. But this unfolding occurs, for the most part, gradually, in a triple movement of variation, that is, unfolding, infolding, and enfolding. The only certainty is

(advancing aspects of what Barad will later theorize as "intra-action"), all of which overcome the dominant Cartesian, dualist, and mechanistic paradigm. Hayles gives the example of how quantum field theories reconceptualize particles as "energy knots" in the field (a zone of excitation and condensation, a node or vortex, that is, a type of movement). Surprisingly, she doesn't relate her field concept with the chaos, self-organization, and indeterminacy concepts she discusses alongside *Chaos Bound* (1990), and also makes no reference to morphogenetic and proprioceptive field theories. I do this while claiming, full force, the need for an even more encompassing field theory. See also Haraway (1976) on the trope of the morphogenetic field in twentieth-century biology.

2 See also Thomas Nail's questioning of entropy, proposing instead the concept of pedetic expenditure as indeterminate but not random variation in movement (2021, 219). Nail, however, still holds onto the idea of dissipation as provisional feature of a cooling universe. I instead propose the idea of an active force of variation propelled by fluctuations, again not as universal principle, but as variable expression, that is not merely vitalist as it accounts for death as part of variation.

3 In Book 4, I expand on a swarming cosmology and the Swarming Evolution Theory of Fluctuation that expresses itself in fields.

that fluctuations will always happen and will introduce mostly minimal but unpredictable variations in whatever fields are at stake, including an entire universe as field.

The best example of this un-/in-/enfolding we have is Big Bang cosmology and inflation theories, in which fluctuations effecting indeterminate variations of density distributions during a super-quick inflation produced the uneven distribution of matter at the largest of scales — the foamy texture of galaxy filaments, each one with millions of galaxies — while at the same time tuning into the frequencies of subatomic oscillations. The so-called particles on this level are rhythms, momentums, modes of excitation tuning, and stabilizations via fluctuation that occur as energy gradients are crossed, while enfolding the four fundamental physical fields.[4]

This inflation and its stabilization are also due to the differentials in vacuum energy emerging in fluctuation. In some theories, inflations creating universes are unleashed by fluctuations. Instead, in Eternal Inflation Theory, bubble universes emerge from quantum foam when particular equilibriums of vacuum energy appear, as bubbles of stabilization emerging within an ongoing, never-ending inflation, that is, a vertiginous, precosmic movement of exponential unfolding. Quantum foam is the foamy indeterminate spacetime bubbling at the Planck length, far below the scale of subatomic particles. The shape and evolution of the universe has everything to do with the peculiar tunings enacted by fluctuations, their overall energy density distributions, and their variation.

But fluctuation is never absolutely indeterminate in the sense of random.[5] It always acquires varying expressions along degrees of a spectrum. Neither chaos nor total order, neither pure chance nor pure necessity. What I set out to propose, by expanding on the ontological dimensions of fluctuation as primordial openness or indeterminacy, is to think of how consistency arises within fluctuation, as a movement of variation — that is, always with *degrees* of openness and variation, which sometimes might get blocked. Degree here doesn't imply an absolute quantity. It's a relative measure of openness in fields. The hardest alignments in our algorithmic culture are thus just as much as expressions of nature as are nebulae or cells and are only problematic in that they may block the movement of variation that is evolution as a reductive outgrowth that turns back against its broader field of emergence. In Nietzsche's terms, they constitute a reactive force. The universe is full of such reactive tendencies, which need to be overcome with unprecedented variations in movement. Crucial, then, is the balance of consistency and openness. The order–chaos dualism is our enemy.

Having indeterminacy as sole *a priori* and thinking only from movement's fluctuating and field-like indeterminacy allows us to rethink our worlds beyond the determination imposed by certain peculiar alignments. But since there is no pure or

4 These are relative to the four fundamental interactions or forces: strong nuclear force, weak nuclear force, electromagnetic force, and gravitational force. But both in quantum field physics (pertaining to the first three) and in relativity theory (pertaining to the fourth), the notion of forces is substituted by those of interaction, field excitation or momentum (in quantum fields), or simply movement economy (in relativity). There are no metaphysical or unchanging forces. Force is an effect of movement: oscillatory momentums and rhythms tuning within larger fluctuating fields which metastabilize over periods of time, creating spacetime fluctuations in the process.

5 On movement's indeterminacy as not implying randomness, see Nail's concept of *pedesis,* as a sort of relational account of Brownian motion which nuances randomness because of the way all movements are always already happening in relations (2020a, 124).

absolute indeterminacy, it is crucial to find ways of thinking its complex unfolding, and the consistencies and closures that arise in it.

### 3.1.4 Movement beyond and between Actual and Virtual

I define movement as neither *concretely* actual, since as a field it is irreducible to a point or trajectory, nor as *abstractly* virtual, since its complex relationality always fields forth to some extent, always creates consistencies, fields, corporealities, and metabodies.

I prefer the term potential to virtual because of the many misunderstandings that have arisen around Deleuze's conception of the virtual. In addition, while my conception of potential is close to his conception of the virtual, I deviate from the latter in considering actualization neither as determination nor as a need for any acts of determination. I also deviate from the association of the virtual with the abstract or incorporeal, proposing *archē*-proprioception as a field perception that is always already corporeal, and the corporeal as never fully concrete or determined, always sustaining degrees of indeterminacy. I will instead use the term "abstract" in relation to processes that detach themselves from their field of emergence and seek to dominate it.

I thus set out to recover the concept of *dynamis* as potential, that is, the power or degree of sustained openness in movement as its only definitional essence, which is also its actuality. This recuperates, while reversing, Aristotle's crucial definition of movement as the *actuality of potential*.[6] Potential is not just a capacity to act. It is openness sustained throughout. Potential as *potentia*, *dynamis* as clinamental power.

As such, the difference between potential and actual collapses to some extent. There will never be just one way of moving, since movements are not trajectories. The openness in the field is not just my capacity to choose one trajectory, one actualization or determination, but to sustain openness in my proprioceptive fluctuation. The actual in movement is its openness, its potential or force of variation that refuses to acquire a determination. This is the case even in mechanical displacement, which stills bear multiple traces of fluctuation in the proprioceptive field of which it is a part. As I walk, my entire proprioceptive field is fluctuating in endlessly simultaneous ways, but even in a car or on an airplane the motor vibrations and surrounding fluctuations create an unpredictable proprioception of the mechanical body.

Actualization as determination of potential, as it appears after Aristotle, is strongly linked to causality and to displacement. But if my movement is a proprioceptive fluctuation that can sustain multiple and undefined simultaneous dynamics, then there is never an actualization in a strict sense of determination or concreteness. In fact, for Aristotle, there could also never be anything fully actual but God. Everything is always in action, at work or in-act (Aristotle's *energeia*), persisting to be complete but following a teleological morphocentric plan, a universal tendency to form or God. Fields that impose concrete actualizations are precisely those which narrow down the openness in movement, by freezing it and imposing geometric orientations. Thus, actualization-as-determination is a symptom for this narrowing.

The indeterminacy principle of quantum mechanics applies actually and directly to the scale of our daily experiences once we reconceptualize bodies and movements

6 I will discuss Aristotle's definition more in detail in the third part of Book 7, on movement philosophies.

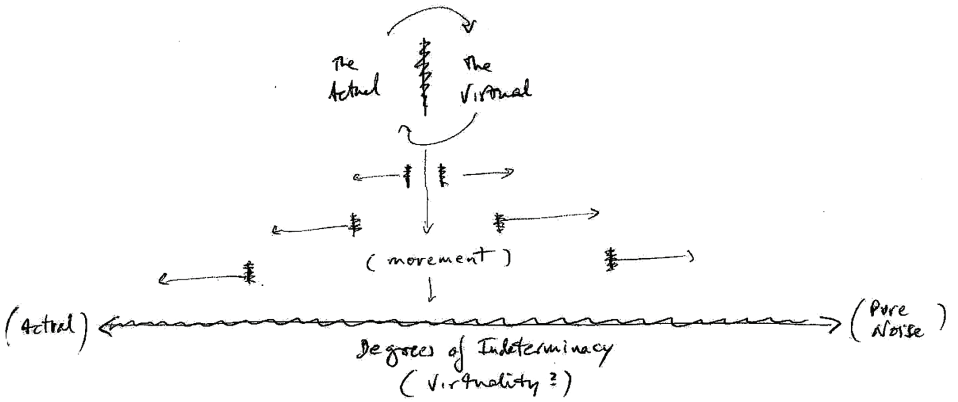



*Fig. 19.* Indeterminacy continuum where the two poles of actual–virtual are substituted by the degrees of actual indeterminacy (actual virtuality or actual potentiality) in movement fields, where pure actuality/form is as inexistent as pure noise/disorder.

as proprioceptive fields. This implies that there is an ontological indeterminacy at the core of movement that only gets narrowed down in certain conditions, mostly implying systemic violence and domination. Our proprioceptive movement always sustains multiple states of fluctuation that never resolve. Its actuality is its openness. But we tend to ignore this.

I define the actual-as-determination as a limit tendency that is never reached, toward a reduction of movement's indeterminacy. I will also avoid abstracting the virtual or open. I think we need a nuanced approach to the varied degrees of openness and alignment that are always at stake in movement. Rather than thinking movement as always oscillating between the two poles or planes of the actual and the virtual, I propose to do away with the poles and think along an indeterminacy–consistency continuum (fig. 19). This has crucial political dimensions, as it may help outline where excessive alignments are imposing themselves, allowing a reinfusion of openness, rather than continually oscillating between pure determinations and pure indeterminacies.

My account of virtuality thus resonates with a Proustian concept of memory as active in the present, that is, "real without being actual, ideal without being abstract" (Proust 1927, 16), that is, *neither actual nor abstract,* awakening proprioceptive, transmodal, and corporeal memories of sensation.

Potentiality does not imply a lack of form but a creative excess, a power of variation that resists reduction to form or stasis. Potentiality is the actual force of opening and variation in movement, its will to power, which is the opposite of domination. It is power as will to opening, power of variation and composition. Movement is the actuality of potential as force of openness, composition, and variation. The actuality of movement is its openness as power of variation. The physical essence of movement as fluctuation is will-to-power-of-variation.

### 3.1.5 The Quadruple Law of Fluctuation: Intra-action, Transduction, Transvergence, and Transmodality (Enferance Law)

I will describe the field fluctuation–variation dynamics of movement through combining the concepts of intra-action and transduction into the neologism *intraduction*, as well as *transmergence*.

Intra-action, following Barad, is "the mutual constitution of entangled agencies" (2007, 33). Intra-action points to the way in which all movements of an ecology coemerge, cocompose, attune with one another, and hold together. Rather than having predefined entities relating (interacting) in a predefined space, intra-action refers to the coemergence and coconstitution of the *relata* (agents that enter into a relation) and the relational field itself. But for Barad, intra-action also implies the emergence of cuts from within an originary inseparability — cuts and forms being essential for meaning and mattering. I take distance from the latter, which still attaches to an observation-dependent perception, and propose a formless account of intra-action without necessary cuts, one grounded on proprioception, where rhythms and discontinuities may happen alongside cuts as aligned relations, without them being essential. In my conception, agency is embedded in fluctuation itself and its expression in variation.

My account of intra-action considers how it is that, within a differential emergence in fluctuation, further differentials emerge — microcosms of fluctuations within fluctuations — and how this law of variation within variation underlies the holding together of fields, the fielding nature of movement. The law of fluctuation implies also that fluctuation-within-fluctuation is a primordial source of fields. Fluctuations create differential zones of energy density, and within any zone there will be further zones, proliferating and condensing. But I also consider the particular attunements between these differentials and the shifting field of resonance they may create, whose rhythms can in turn propagate across other fields.

In turn, transduction, following Simondon, is "how an activity propagates gradually inside a domain, founding this propagation on a gradual structuration of the domain" (2005, 32, my translation), structuring its domain and itself in the process without a predefined plan, where the plan itself unfolds in transduction. Its primary mode is internal resonance, which I associate with intra-action. For Simondon, transduction is the core process of individuation, in which a being becomes by continually stabilizing into phases and continually dephasing from itself, along its transductive structuring. In inorganic individuations, like a crystal, this happens by transducing an internal resonance in relation to a surrounding, border resonance, whereas in organic individuations, the internal resonance constitutes itself a rich dynamics, such as in the autopoietic cell. Transduction is also the dynamics of invention and can account for the evolution of technics.

But the tendency to provisionally stabilize in phases is conceived by Simondon as a negentropic tendency of life struggling for balance while continuing to shift in its relation to entropy, thus evolving from metastable equilibrium to metastable equilibrium, while unfolding its own spacetime. I want to take individuation and its provisional stable phases or forms out of the picture — and with them the entropy–negentropy dualism — and propose intraduction as sole process for how fields consist, which is already relational, since the domain of propagation of a field will always be another field, or a multiplicity of fields.

Transduction points to how a field of resonance is established, for instance, between the electromagnetic charges creating a chemical bond or reaction, unfolding in a sustained metabolic transduction of energy from the sun, so that the field of resonance defines its own evolution as it enfolds. This evolution always implies unpredictable fluctuations and thus variations in any preexisting tendency in the field: a law of variation.

Transduction also speaks about the modes of relation between fields of a different nature, singularities that are not unconnected, since they coexist, affecting one another in ways that do not follow a universal ratio. The tuning of an internal resonance goes about its unfolding in relation to other fields. Unfolding and infolding is a reciprocal enfolding of the field.

How do the particular movement dynamics composing a field propagate, expanding the field while recomposing it in relation to other fields? Consider my proprioceptive field, propagating its dynamics across someone else's in elaborating a relationship, creating new memories and movement potentials or perhaps closing down alignments. Consider two bacterial swarms meeting or two galaxies collapsing on each other and recomposing in the process. Consider an electromagnetic diffraction of the sunset light imprinting on my retina, my synapses, and my skin, unleashing a proprioceptive memory and a creative process, or consider a binary wifi radio signal that brings a set of symbols and pixels to my computer screen, inviting me to click on them or two cultures relating to each other, say, a colonizer and colonized, or different perceptual organizations that relate to each other, say, perspective and proprioceptive-multisensory integration. In all these examples, there may be instances where some fields impose dominant movement ratios on others, such as the perspectival fixed point of vision as means of colonization has imposed itself on its wider proprioceptive matrix. Others may recompose reciprocally without imposing dominant ratios, cosensing, cocomposing. How movement ratios of a field propagate, transforming other fields, is linked to their internal resonance, and reductive ratios propagate in a reductive and dominant manner, whereas more plastic ones are prone to recompose in the process as they sustain a sensitivity that aligns with openness — the capacity to vibrate with others, to change their modes of vibration and their rhythms. Consider waves propagating and diffracting across one another, recomposing their phases not by resolving tensions or disparities, as in Simondon, but by *recomposing into new tensions and disparities.* Not individuating but fielding forth in variation.[7]

Intra-action thus allows us to think from internal relations, and transduction from propagations. But intra-action and transduction always go together, as no field is isolated. Evolution happens in the entanglements of myriads of fields cocomposing. The infolding of intra-action and the unfolding of transduction imply the creation of a universe or field, an enfolding, an intraduction.

Enfolding, as both unfolding and infolding, exceeds the entropy–negentropy model — as Derrida's *différance* also seems to propose — to the extent that every spacing is also a deferral, an economy that holds something in balance with its unfolding.

7 Waves are modes of movement, of rhythm, and of *archē*-proprioception in fields, and are thus corporeal. A wave is a type of propagating fluctuation, of rhythmic changes in density, an archetypal example of propagation without displacement. The apparent displacement of the wave happens across atoms that do not displace but only momentarily change their local relations of proximity. It is the impulse, momentum, or rhythm of a fluctuation ratio that propagates.

And yet *différance* doesn't fully allow us to understand when that balance is broken, when the excessive segmentation of traces creates an excessive segmentation of economy as pure retention. In *différance,* the economy of spacing as trace that defers, holds, and temporalizes still seems to propose a certain linearity of movement. But consistencies occurring in fluctuating fields, as sustained but slowly varying differentials, are the primordial mode of economy of nature, where surplus is not captured but kept alive and indeterminate, as the power of variation propelling evolution. Subtle ongoing variation is the fundamental economy of nature.

The partial stability emerging in fields where variation tends to be ongoing and minimal is not due to a negentropic tendency struggling for stability against entropic disorderly chaos. It is rather an effect of how fluctuations intraduct within and across differentials gradually and reciprocally enfolding, while of course occasional disruptions occur in encounters between fields as well. Fields with a resilient balance of consistency and openness are able to take in disruptions in more creative ways than those lacking that balance, which may simply surrender to the dominant movement coming in.

...

At the same time, one can never have a complete picture of how many movements and fields are entering a particular relation, since we are inside them and always have different perceptual biases. Each body will identify or focus on different aspects that remain imperceptible to others. Marcos Novak's (2002; 2010) concept of transvergence implies that convergencies are always derailed by an otherness that irrupts in the relation, accounting for the possibility of going elsewhere. This implies that in any convergence of fields, there are always unknown forces or elements that enter into play and which entail a force of derailment, disalignment, or opening. Every field is always a convergence of many, but we can never know how many or exactly which. The body I am transverges across subatomic, molecular, proteinic, bacterial, cellular, organismal, social, normative, disciplinary, control, algorithmic, atmospheric, and other fields, but each of them entails indeterminacies and qualitative variations. In other words, every type of intensity that I experience is an irreducibly complex vibratory mode across all my physio-bio-socio-technical strata. Each metafield composing me has its memory — some of them reaching back billions of years in evolution.

If I cannot know how many or which fields I am intraducting across, this is partly because fields are not clearly bounded entities. But this is also due to the metaformative nature of perception and movement, which is to say that my identifying a new field is part of a process in which a new perception emerging is not distinct from the field, but part of its very process of intraduction. Both Barad and Simondon would coincide in this. For Barad, every observation is internal to the phenomenon, and structures it from within. For Simondon, knowledge is not *of* individuation, but is itself a process of individuation, and structures itself as it unfolds. I take this further by proposing that the mode of perception proper to fields is not observation but proprioception, which is directly linked to the internal and relational movements composing the field itself. Observation is then a very aligned mode of proprioception emerging in geometric fields. Metaformativity, the theory and pragmatics that I will unfold in Book 6, speaks about this intrinsic relation between modes of perception and modes of movement.

Novelty is intrinsic to fields not only because of the unpredictability of intraduction, as new fluctuations within fluctuations create novelty (as multiplications of internal states and transformation, and as entropy as creative force), but because it is never possible to fully account for how many and what fields will come together, and how they will recompose. Every relation is constituted not only by known movements converging, but by unknowable or indeterminable ones. Novak calls this derailment force an *allogenesis*. If this force of derailment is sustained, proliferation of diversity prevails over fitness: evolution as variation.

At the same time, convergence, transvergence, or derailment still imply a linear conception of movement. If we consider how movement fields merge (like waves diffracting, or like currents, flocks, or galaxies coming together), the concept of transmergence would be more appropriate, in its connection to emergence. Fields always emerge in transmergence. Since every transmergence of fields entails a new composition (as in two currents coming together from two different rivers and merging their chemical composition into a new compound), novelty is primordially part of the process heightened by the fact that one cannot know how many fields transmerge in a given situation. For instance, besides the river currents, there will be atmospheric and ecosystemic fluctuations or pollution. We simply can't know how the mixture will be.

Meanwhile, in every transmergence different fields can sustain their consistency while transmerging with others. This is the source of consistency in evolution. Think of how a multicellular body still has the chemical mode of composition of protein assemblages and bacterial ancestors, even if later on the electrical coordination of nervous systems has put these in connection with mechanical modes of operation of the body through mechanotransducers that relate the mechanical and the chemical strata through the currency of electrical signals. My concept of Body Intelligence (BI) precisely claims this self-organizing power inherited from bacteria at the core of our nervous system.

This implies not only a multimodality in how fields compose within an evolution that entails multiple strata and fields accumulating and reciprocally composing, but a *transmodality,* which implies not only the interrelation between strata, but the lack of a single organizing hierarchy. For instance, an illness may be caused by diverse factors, and how it gets cured may also happen in very different ways, as processes in a body traverse, translate, and transduct across different modalities of its biochemical fields and fluctuations, such as metabolic, hormonal, neuronal, genetic, emotional, etc., where aspects like the emotional are a complex hybrid of many others. This is also the logic of memory in Marcel Proust's *Recherche,* and of the *madeleine* as transmodal essence. That is to say that a sensation can condense and transmodally unleash the awakening of an entire field of intensities, affects, and memories, in that it transducts as it is reenacted, never repeating itself, shifting all the time as you distil deeper and deeper qualities or essences, understood themselves as condensations that don't abstract from the field to impose themselves on it, but which take it into new variations. Memories are a crucial part of the movement of variation because they afford sustainability, consistency, *technē,* and depth of resonance. Crucially, this means that they are self-varying. Memory as fixed sets of data is an algorithmic misconception.

We can from here distinguish two modes of abstraction, one that separates and imposes itself, close to Henri Lefebvre's concept of abstraction, and one that remains an immanent movement of variation within the fields in which it emerges, close to

Deleuze's concept of the virtual. *Form* is thus *the abstraction that separates and imposes itself,* a "misplaced concreteness," following Whitehead, whereas *formless rhythm is immanent variation that resists separating and imposing itself.*

…

If I cannot know what kinds of fields this body which I am could become, this is due to the endlessly varied rhythmic dynamics accounting for endlessly varied intensive states and qualities, affects and their vitality. Every field is a new quality with its vitality and its resonance. But the field theory I propose implies that qualities are never determined nor can they be repeated. There is no repetition,[8] only variation. Fluctuation–variation is *difference without repetition.* Qualities are never concrete, and they always retain degrees of fluctuating indeterminacy. They are themselves modes of fluctuation and of variation.

As such, the dynamics of movement composing metabodies is *intra-active, transductive, transvergent,* and *transmodal*. This is the Quadruple Law of Fluctuation, which we could summarize in two key concepts, *intraduction* and *transmergence*.

This fourfold dynamic implies an ontological *a priori* of novelty but is also the ground for consistency, since it is in this complex entanglement that the open consistency of bodies comes about in evolution as sustained variation.

The unfolding of the world is thus neither as division, nor as stability, but as indivisible variation, reattunement, proliferation of *diversity as relation,* of disparities that hold together, always more than two.

The law of fluctuation reverses Parmenides' imperative of being as immobility by implying that *being can neither be, nor not be.* There is only the neither–nor and bothness of fluctuation and its expression in Open Wholes, as movement of variation. Fluctuation is neither active nor passive, and both. It is a sustained momentum within which multiple forces manifest without resolving their state.

Becoming is the enfolding of fluctuations as variation. This in turn implies a reversal of Plato's imperative, that there can be no knowledge of being since there is no being. Creating the illusion of being for the sake of knowing is a betrayal of philosophy and life. We need a knowledge of movement and a knowing in motion that allows us to move in ever richer ways.

I oppose this Quadruple Law of Fluctuation to the quadruple Aristotelian law of causality as its radical reversal, which renders causality impossible while grounding consistency precisely in that impossibility — on openness and indetermination. A consistency grounded in fixity and closure would imply death, negation, and destruction, since it would be incapable of dealing with the world's fluctuation and moving with it. True consistency can only be one that affords better ways of moving with the world's fluctuation, taking it on creatively in further variations.

The Quadruple Law of Fluctuation (Enferance Law, which I define later) undoes causality as follows:

8 RMP questions the possibility of repetition, as well as the idea of a repeatable entity. In my proposal for a field theory, variation *does not imply repetition* from which to vary. What varies is the entire field, which is never identical to itself but ontologically indeterminate and fluctuating, mostly only partially varying, so that some of its internal relations (energy density distributions) may sustain while others change. If transposed to the realm of rhythm, this implies that there is never a singular pattern that varies, rather it's the entire micropolyphony.

1. Fields as fluctuations are irreducible to points and lines of movement in a linear causal scenario, where their potentiality is their actuality as overfullness, creativity, power of variation, and irreducibility;
2. Intraduction of fields fluctuating within fields implies a metafractal nature where every new fluctuation within a fluctuation creates an unforeseeable variation that is irreducible to a cause–effect scenario or a geometrical form;
3. Transduction and transmergence are an ongoing recomposition of fields with no possibility of reducing their components to a defined set of entities coming together in linear ways, thus also defying the idea of endless causal lines that meet in unexpected ways, where there are no causal lines, but there are fields, each of which sustains an ontological indeterminacy;
4. Transmodality is an irreducibility of causalities and hierarchies in the relations between strata or metafields but also where new qualities and intensive fields emerge as vibrational modes across any given strata.

Causally reducible actions in a body are retrospective projections that ignore the much broader fluctuating field in which they arise. The body's fluctuation is not in relation to an originary balance that it strives to retain. This is the falsifying image of a perspectival culture, exemplified for instance by the dancer's figure–form struggling to sustain balance. The body is never in balance, nor does it need to strive for it because its fluctuation is always already out of balance, swarming around, unstoppable. A body is always in variation.

The Quadruple Law of Fluctuation implies the *will-to-variation*. It is the physical, not metaphysical, essence of movement along a spectrum of endlessly varied expressions, where reduction of variation equals domination. This thus entails an ethics of nonreduction of the qualitative, of nonreduction to quantity. This also implies an economy, an ethics, a law, and a right to nonreduction, as well as an economy, ethics, law, and right to sustain the movement of variation in evolution, which could be sources for a potential Multiversal Declaration of Metahuman Rights.[9] Justice as nonreduction implies justice as the sustaining of indeterminacy in movement's variation.

Due to the principle that fluctuations are always proliferating within fluctuations, which is a principle of internal difference that goes along their unfolding and interrelations, variation is a process of increasing diversification.

#### *3.1.5.1 Quadruple Law of Fluctuation: Recapitulation*

The Quadruple Law of Fluctuation is a law of *variation, indeterminacy, open consistency,* and *relationality*.

The Quadruple Law of Fluctuation proposes a reversal of the Aristotelian law of causality. It exposes the impossibility of causality and presents indeterminate variation as only *telos* of nature: fluctuation within fluctuation (internal difference), spacing out, propagating through others, and oscillating–swarming together with other fluctuations, always many at the same time, without being able to know how many converge and sustaining multiple relationships, with simultaneous and continuous variations, with a multiple ontological indeterminacy as multiple modes of fields and their dimensionalities, spacings, and temporalizations coemerge in an entangled and open manner.

9 See Book 6.

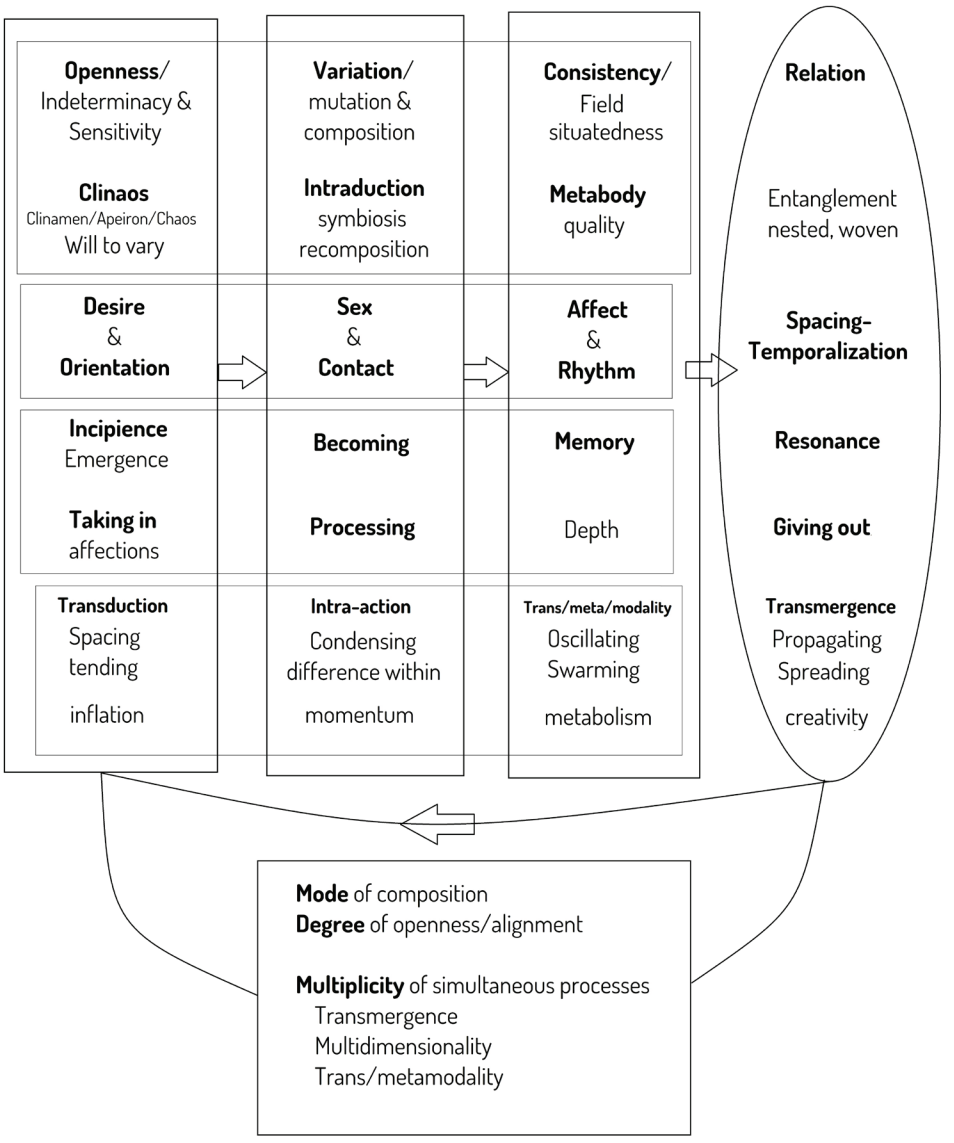



*Fig. 20.* Diagram of the Quadruple Law of Fluctuation: indeterminacy, variation, consistency, relationality.

A variation whose primordial movement is minimal sustained variation because it is both internal and relational:

— intrinsic/internal
  — fluctuation within fluctuation — internal difference
  — spacing — internal consistency
— relational
  — propagation — relational consistency
  — oscillation rhythm and swarming — relational difference

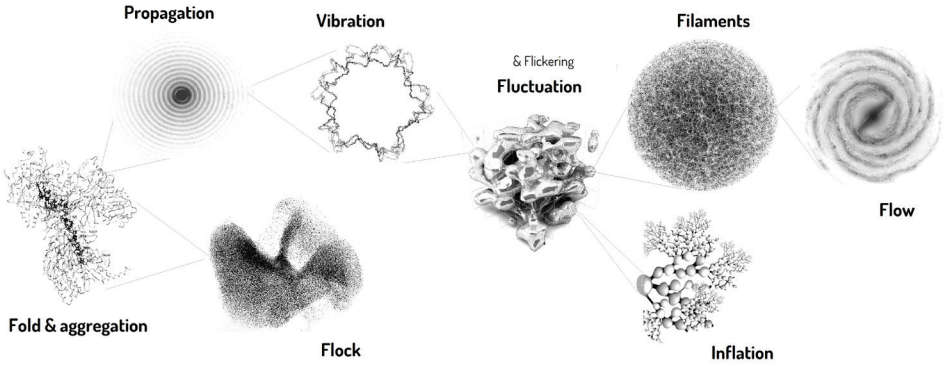



*Fig. 21.* Diagram of *archē*-modes of fluctuation.

Minimal variation is due to the ongoingness of the multiple processes of internal and relational fluctuation.

*Fluctuation is thus not a state. Rather, it is a movement of increasing variation.*

Consistency stems both from relationality and from internal difference and spacing. Indeterminacy or openness is there due to the multiple simultaneous levels of relational and intrinsic variation, where ongoingness of relational variation equals open consistency. It is a quadruple law of internal and relational variation (symbiotic–sympoietic mutation), open consistency, and indeterminacy, of movement as fields of fluctuation in variation, amorphous and irreducible to form. The latter is the Algoricene's anomaly, the tendency to stasis and alignment, the reduction of variation that creates vital paralysis. Each of these has its metaontologies, histories, and precursors from the pre-Socratics to today (fig. 20). These are defined by their

— **indeterminacy** as metaontology of indeterminacy–openness (multidimensional relational and internal difference);
— **variation** as metaontology of becoming, change, mutation, variation, difference or diversification–process–movement–queering, deviation, decontextualization;
— **consistency** as metaontology of the body–field–open consistency — plateaux;
— **relationality** as relational–symbiotic metaontology — resonance–propagation — rhythm, temporalization, and spacing.

This universe is a field made of endless other fields *inflating, condensing, propagating, vibrating,* and *swarming across each other,* already for 13.8 billion years of increasing variation. Vanishing and flickering, appearing and disappearing, and fulgurating are some others of the endless movements of fluctuation (fig. 21).

All of these account for the emergence–evolution of a chaosmos and its fields as *poiēsis,* not only as *sympoiēsis* but also as *metapoiēsis,* a relational becoming, variation, or mutation, always in a *triple process* of emergence–incipience, transformation–composition, and memory–propagation–dissipation–resonance of an entire chaosmos as field, and of any field consisting in it.

The Quadruple Law of Fluctuation implies

— indeterminacy, relation, variation, and open consistency;
— intra-action, transmergence, transduction, and transmodality;
— internal and relational variation and internal and relational consistency;
— fluctuation within fluctuation, spacing, oscillation, and propagation; and

— variation without entity nor repetition.

All these happen in an indeterminable multiplicity of intertwined (metafractal) and related simultaneous processes that constitute *modes* (rhythmic fields of formless fluctuation) and cross-modal relations, a *poiēsis* of fields defined by modes which are always already of variation and relation that is trans- and metamodal, and by the *degree* of indeterminacy.

These processes are in turn vital cycles and fields
— of taking in–mutating–propagating;
— of opening up–composition–memory;
— of incipiency–becoming–resonance;
— of sensitivity–variation–quality;
— of desire–sex–affect;
— of changes of orientation–contact–rhythm, that is, Democritean swarm ontology.

All of which redefine indeterminacy not as pure chance but as the minimal sustained variation, due to the ongoing entanglement of all the processes.

Ubiquitous fluctuation explains the unavoidability of the irregular in the lump and bubble, filament and fold, vortex and current, wave, vibration, swarm, or the proprioceptive field of the body.

Each field is a becoming and a lived experience, made of multiple ongoing processes, woven with others in open-ended ways. Thus, a field is not a perspective, but part of immanent affections. It is never linked to a totality of other fields, but is rather interwoven with many and changing ones. Its process of composition is in the interweaving of emergent, changing rhythms, that is, fluctuations without meter or pattern. This is the basis of *poiēsis* in all orders of nature, from the inflation's momentum of a universe's birth, through the matter flow momentum of the life cycles of stars, and the metabolic momentum of growth in organic life, to the creativity momentum of ideas. And the beauty that affects us is when a field of movement traverses ours and transforms it creatively.

### *3.1.5.2 The Anomaly of Causality*

*Causality arises when determinations arise.* The Aristotelian law is symptomatic of the epochal reduction it induces.

I denounce the fallacy of displacement as Aristotelian teleology, of the animal that desires toward an end following a displacement. This teleology is opposed to the reciprocal and open fluctuations and affections and the serendipitous wandering as primordial, where there is a balance between the continuous affecting and being affected and where sensitivity is associated with a transformative processing of the affections and a return of the processed as a quality that is thrown into the world again, toward new symbiotic mutations.

*What is movement?* Fluctuation fields in variation.

*What is indeterminacy?* Minimal sustained variation, nondetermination, openness, the ability to sustain variation, the characteristic of any field of movement which sustains multiple simultaneous and unresolved modes of fluctuation.

This is neither order nor chaos. In order to get the Platonic–Cartesian and Aristotelian–Newtonian pedestal out of our heads, it is necessary to dismantle the fallacy of the order–chaos dualism. The world is neither structures–forms nor disorderly

randomness. Fluctuation is relational and continuous; its primordial movement is minimal variation.

The order–chaos dualism reflects our own sensorimotor and cognitive poverty and atrophy, our inability to perceive and move with the flows, to see only fixities and forms, to see everything else as absolute disorder, the inability to deal with complexity. There is nothing in nature that is disorder; this is only the ghost that arises as a reflection of our atrophied perceptions.

This is a radical claim for indeterminacy, against the chaos–order or chance–necessity dualisms stemming from a wrong, deterministic account of movement. Against the idea of entropic metastable dissipation, I propose an active, enferant, minimal ongoing variation in whose process open zones of consistency, fields, open wholes come up.

This is not only a *pathic* (and not *ontic*) approach (as in Gosselin and gé Bartoli [2019a]), that is, one based on relational affections (defining modes of composition), but also one where indeterminate variation is core and *a priori,* the measure for freedom and for life.

#### *3.1.5.3 Principle of Nondetermination: Principle of Movement–Variation–Indeterminacy–Relationality–Fluctuation*

I argue that diversity is not only an ethical imperative of human societies but an evolutionary and ontocosmological imperative, necessary for life, in all orders, that is, biodiversity, sexual diversity, technodiversity, neurodiversity, and diversity of geological and cosmic flows. Yet diversity is not a state but a movement of sustained variation and increasing diversification, and what varies are not already defined things but fluctuating fields in relation to each other, characterized by indeterminacy through bodies, flows, and ecosystems composed of swarms of atoms and molecules. Symbiosis and variation are the motors of evolution. Without indeterminacy there is no variation in the relationships, and evolution comes to a standstill. We need techno-indeterminacy, neuro-indeterminacy, bio-indeterminacy, geo-indeterminacy, sexual indeterminacy, behavioral indeterminacy, perceptual indeterminacy, social indeterminacy.

The universe is governed not by an entropic tendency to dissipation but by infinite variation, actively propelled by quantum fluctuation, the indeterminate variation that underlies every process in the cosmos. The more the indeterminate variation is reduced, the more the movement (including neuronal, molecular, and genetic from which organisms arise) becomes impoverished and homogenized, establishing a planetary regime of pure quantification that controls by impoverishing, leading to extinction.

Thus, a new ontocosmological principle of variation is proposed, which in turn implies an ethical–political *principle of nondetermination* of movements, considering the degree of indeterminacy of relationships in a given field. This implies understanding the radical determination and homogenization of movements that has emerged on Earth in recent millennia, in the Algoricene or age of extinctions and algorithms.

A new principle for new values: from the right of the human person or even of nonhuman persons we pass to the principle of nondetermination of movements of bodies, ecosystems, and flows, which always imply relations. This cosmo-ontology of

variation has radical ethicopolitical consequences and proposes a *reversal of entropy*. We call *enferance* the process of variation actively propelled by quantum fluctuations.

### 3.1.6 Swarming Ontology as Radical Field Theory

The swarm or flock, together with a revision of the Democritean account of the atom as rhythm, orientation, and contact, is a way to think through the consistency, openness, and variation of movement fields. A swarm or flock is itself a field and a wonderful expression of fluctuation. It allows us to think through the rhythms, orientations, and contacts composing a field's variation. It also allows us to think of the degrees of alignment and plasticity of fields.[10] A body's proprioception is itself a sort of swarm. So is an atom, a cell, a city, a planetary-scale computation system, a solar system, or a galaxy. Flocking and swarming, as I will propose to rethink these terms, provide rich ways to account for the dynamics of fields.

The swarm is paradigmatically consistent but open, and it allows us to think in-between extremes and to distinguish degrees. It also invites us to place ourselves inside it, feeling its fluctuations rather than looking at it from a distance. We flock in relation to our surroundings and as part of larger flocks, our life is a multifaceted never-ending flocking. Moving in the house, we flock around, multitasking in the kitchen, working at our desk, or in conversation. We flock inside larger flocks of the social body, the city, atmospheric phenomena, bacteria, galaxies, or technical systems. All are swarms within swarms, and movements propagate across swarms, like waves, as rhythms transpose.[11]

The swarm's movement is not a mere displacement of the swarm in its surrounding space, or of points composing it. Rather, it is the continual changes of internal relations (energy density distributions) that recompose the swarm itself in its relation to a larger environment that transforms it in the process, like a larger flock.

I challenge predominant accounts of flocks as composed of dumb points following basic rules.[12] Birds are not at all dumb points with rules. They are proprioceptive and molecular swarms, whose emergent behaviors are offspring of billions of years of self-organizing movements and whose Body Intelligence is perhaps greater than ours. There is a terrible anthropo-logocentric arrogance in considering a bird or insect as a dumb point. An insect or a bird is a highly complex proprioceptive body with its complex BI, which makes it strangely similar to us, except that we have induced a dramatic atrophy in our BI.

Likewise, I oppose any mechanistic approach to swarms as made of points following trajectories in space, which is a very convenient reduction for computational simulations. Instead, through proprioception as multisensory integration, the swarm is here reconceptualized and experienced as a fluctuating field whose overall internal changes of rhythm, orientation, and proximity across elastic thresholds fading to

10 For instance, what I call Algoricene, or the Age of Algorithms, is the gradual emergence of a super-aligned, geometric, planetary-scale swarm, coexisting with many other types of swarms and fields, including other types of human societies and technics, ecosystems, atmospheric phenomena, and so forth.

11 My account of entangled swarms, fields, and metabodies resonates with Nail's (2018b) account of flows as always many, entangled multiplicities without end.

12 Craig Reynolds (1987) was influential in defining a reductive account of flocking from the perspective of computational attempts to simulate it. Jussi Parikka (2010) also exposes many of these existing approaches to flocking.

infinity relates to the internal fluctuations of proprioception in each animal as it attunes extero-proprioceptively to the larger flock and also to larger fluctuations in the environment and atmosphere down to quantum fluctuations and up to the biosphere and cosmic radiation. The flock is itself a proprioceptive field whose internal consistency is made of the proprioception of each bird fluctuating and relating to others via exteroception, just like each bird's proprioception is a molecular flock. Immanent and nonrepresentable, swarms exceed representationalism; openness and unpredictable emergence is their salient property and creative force.

Rather than opening up a promising radical redefinition of our relation to animals and technology and a radical new trope for movement and self-organization, the existing interest in swarm intelligence, as in computer simulation, reproduces a number of problematic biases and alignments. Again, a reductive account of perception has reintroduced anthropocentrism through the back door. Self-organization can never happen through the dumb rules of dumb points. Rather, it's a question of consistent but open movement fields, emerging from proprioception and BI.

Likewise, it's not a question of acknowledging the existence of a prediscursive vital force called *zoē,* of which insects or flocks would expose an uncanny, alien expression, that would need to be integrated in the discursively invested *bios* in order to put itself to action in meaningful ways.[13] However, it is about acknowledging, on the one hand, that the discursively articulated *bios* is one particular and aligned expression out of trillions of less aligned expressions of a much broader *zoē*. On the other hand, the alignments of *bios* are always fluctuating, and they are themselves anchored in proprioception as the common, broader BI matrices that differentially connect us to all expressions of nature. Inversely, one can say that *zoē* always already has its politics, its *bios,* grounded on variation rather than reduction.

The hope for a new sensibility in moving toward self-organization in the social sphere lies in the swarming power of proprioception as BI. Rather than reproducing a bipolar vision of the intensive potential of insects on the one hand and of human discursive–technical formalization on the other, I want to propose that so-called formalization is still grounded in the much broader swarming field of our proprioception, as a reductive outgrowth that has become dominant, so that the "intensity" of swarms is not as alien to us as it seems. Reduction still operates through the broader field. It could not exist without it, as proprioception is in any case the perception proper to movement fields of any kind. What we need is a better understanding of the types of movement fields and swarming at stake in every instance, and of their degrees of openness or alignments. What previous approaches have missed is a radical movement theory as radical field theory.

Flocking behaviors are thus a paradigmatic expression of a more primordial swarming that expresses the complexity of fluctuation unfolding into flows, growth, societies, and more aligned technical systems. They allow us to develop a fine-

13 Along the lines often proposed by Rosi Braidotti, Judith Butler, Elisabeth Grosz, Roberto Esposito, and Giorgio Agamben, amongst others. See for instance Braidotti (2008) and Zylinska (2009, 75), building upon Ewa Ziarek in criticizing Agamben's negative account of bare life and the need to claim "the generative power of *zoē*" against the disabling aspect of an overarching biopolitical framework, proposing to build instead upon Michel Foucault's technologies of the self as generative "opening within" biopolitical domination in the context of a new bioethical project and the new modes of biopolitics as "ubiquitous life management" in the digital age. I will expand on this and my shift to an ontopolitical framework in Book 6.

*Fig. 22.* Flock in Almeria, southern Spain.

*Fig. 23.* Starling murmurations near Sant Pere Pescador in Catalonia, Spain.

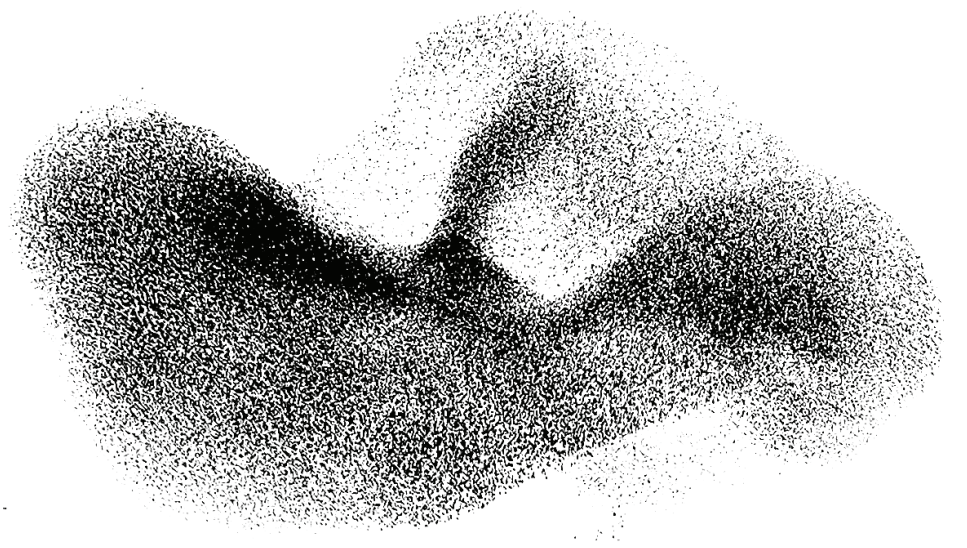


*Fig. 24.* Starling murmurations in the Ambracian Gulf, Greece.

grained account of movement fields, their emergence, composition, variation, and alignment.

The kind of swarming movement I would like the reader to evoke is the type of mesmerizing flock of myriads of birds — epitomized by so-called starling murmurations, one of the most wondrous phenomena in nature — constituting extremely dynamic and amorphous clouds that seem to fluctuate or hover around their own emergent field — as if going in many directions at the same time, sustaining high degrees of indeterminacy, stretching and condensing, with constant changes of speeds and internal orientations, sometimes provisionally aligning into an amorphous laminar flow, which still retains constant changes of internal relations, as they seem to go in a more defined direction, or as they move along air currents in more vortical flows (figs. 22–24). The flock exhibits an infinitely varied range of movements in the rhythms, orientations, and distances in-between the birds where every changing configuration and dynamics of the swarm is a type of movement field.

Imagine that the 360 joints of your body are a flock. Each joint changing in speeds, proximities, and orientations in relation to all others. What you feel is probably not so much the individual joints, but the muscles and tendons deforming, stretching, and turning around in multiple torsions in between and across many joints, coforming blurry tensional zones, that is, a microcosm with its own dynamics, in ongoing relation to the multiple microcosms surrounding it, as Charles Scott Sherrington (1906) describes the proprioceptive field. My flock of joints is not in the trajectory of singular joints, but in the tissues across, where the changing speeds–rhythms, orientations between zones–parts, proximities–densities, and efforts are felt. It's in the entire deformation of the field as amorphous but consistent open whole. This field sustains multiple unresolved tensions, which are its openness. Every joint is perhaps more like a turn, a vortex, a *clinamen* composing itself a torsional–tensional field, a diffractive angle or node.

Now take this felt idea back to the flock of birds and try to propriocept it as a tensional–torsional field of changing relations of speed, distance, and orientation between the birds, like a string figure in *n*-twisting dimensions, yet always reaching out as well, just like your proprioception moves–deforms in relation to a world.

When we see a flock, we feel its dynamism transducing in our own proprioception, resonating in its memory, opening it up. Vision is an extension of proprioception. Everything we see transducts in our proprioception, not merely diffracting in us, like waves, but recomposing us, like flocks!

The swarm also allows us to think how diverse fields of movement relations may coexist in traversing one another without even perceiving each other, or reciprocally composing new fields. Imagine a flock of birds coexisting with a swarm of insects, each of them in separate dimensions, each of them relating only to their field's rhythmic attunements. This is how endless fields always coexist, sometimes relating and sometimes not. Fields are economies of movement, and many different ones can hold together with more or less independence within what looks like a single Cartesian space, but each of them is a chaosmos. None of them will operate according to Cartesian coordinates of reference. Instead, they will compose internal rhythmic relations.

#### *3.1.6.1 Rhythm, Contact, Orientation*

As a provisional means of approaching the plasticity of flocks as movement fields, I propose to expand on Democritus's account of the properties of the atom in terms

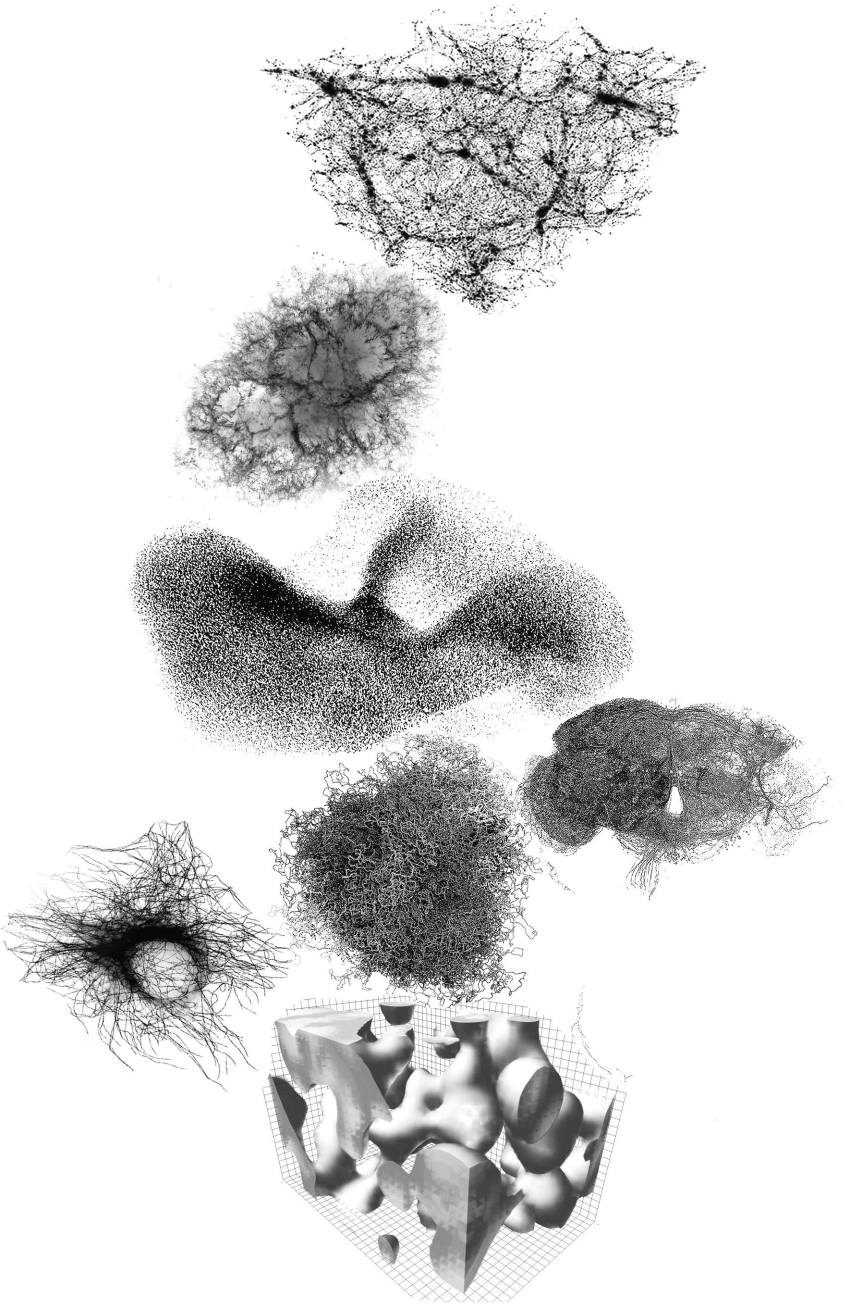


*Fig. 25.* A universe of formless fields, from quantum fluctuations across 3 femtometers (bottom) through a cell, DNA, a fly's brain, a flock, the Crab Nebula, to galaxy filaments across 350 million light years (top), and beyond, to the multiverse.

of rhythm, contact, and orientation (*rhythmos, diathigē, tropē*).[14] This dynamic ontology was radically undermined by Aristotle's misreading of it, because he translated these terms to the much more immobile and formal terms of form and figure, order, and position (*skhēma, taxis, thesis*),[15] which is one of the most tragic and surprisingly ignored misreadings in the history of philosophy. I want to claim back the dynamic and relational vision of Leucippus and Democritus, which has also been ignored due to the immense weight of Aristotle's authority.

Before Plato influentially defined *rhythmos* as order in movement (1926, 653), its etymology, which I discuss in Book 7, pointed to the dynamics of fluctuation in flow. *Diathigē* in turn seems to be a neologism of Leucippus and Democritus signifying mutual and dynamic contact. Lastly, *tropē* means turn and change and thus a conception of orientation and direction as dynamic.

Rhythm speaks of the always already qualitative aspect of changes of speed and changes in dynamics and thus of affect.

I consider that proximity and density are crucial in fluctuation as variations of energy density relations, which implies the intrinsic qualitative change associated with degrees of density, such as consistency, but also spacing, as in a flock. It also implies the new modes of composition, and thus of sex, that these variations field forth.

I associate orientation with the internal changes of relation and composition that are only and strictly qualitative, as in chemical bonds. Orientations can have degrees of openness and breadth, which relate to the narrowness and rigidity or openness and plasticity of desire and of spacetime as perceptual orientation, from the narrow orientations of linear spacetime and linear desire to the swarming excess of our proprioception flocking around.

A swarming movement field is thus provisionally defined in terms of changing speeds–rhythms, changes of internal orientations, and changes in touch–proximity density between energy density zones of a field.[16] That these relations always already entail a rhythm, composition, and density, defining an affect, implies their being always already qualitative, and irreducible to quantity. This irreducibility to quantity has to do with the way a field defines its own emergent dynamics as irreducible to that of any other field. Quantity is not an aspect of a field. Indeed, it is the end of a spectrum of reduction that imposes the external reference of a gridded Cartesian field, rather than letting the field self-organize in its own dynamics.

In strict physical and cosmological terms, fields create their own spacetimes. This applies, as I mentioned, to the actual shape and evolution of this universe, as it relates to its distributions of energy density. Every particular and varying distribution of energy density is actually a type of spacetime enfolding. This relation is strictly defined in Einstein's Theory of Relativity.

Rhythms–affects–qualities intrinsically fluctuate and are indeterminate, which affords an even deeper irreducibility to quantity. As such, the new affect of a new movement dynamics I may feel emerging in my daily movement improvisations can

14 See the detailed etymological and bibliographical account in Book 7.

15 In *Metaphysics* I, 4, 985b.

16 If we seek recourse to ancient distinctions between three major types of movement — displacement, growth, and qualitative change — all of them can be seen as partial expressions of variations in rhythm, orientation, and contact. Thus, I reverse Aristotle subjection of these types to displacement and inversely claim that displacement is never simply such. It is always a very partial expression of fluctuations in a field.

be understood in entangled ways in its peculiar mode, its rhythmic dynamics, which is its quality and affect; in its degree of openness, which is its vitality and its indeterminacy; and in how it relates to a memory, to a depth of resonance that keeps evolving all along. This is the very point of memory. It is not to fix but to allow richer ongoing variation to unfold.

These relations of changing proximity, orientation, and speeds are the three elements with which I tentatively approach the movement in the flock or swarm as happening in the relation, rather than the point moving, whereby any "point" is again a flock, a blur down to quantum foam.

Vortexes, folds, curves, fractals, diffraction, rhizomes, or even algorithms and geometries can be seen as partial expressions of what a flocking movement can do as it unfolds in *flow, growth,* and *societies*. All of these imply technics. The swarm or flock is itself a transductive trope, undefined.

#### *3.1.6.2 Why Movement Cannot Be Reduced to Still Points*

Since movement is a field and not a trajectory, it can neither ever be a point, nor be *in* any point. Rather, it is the overall change of internal dynamics across the entire field and beyond.

A field is, if anything, a nonpoint, a blur, a fluctuation. Whether atom, flock of birds, or galaxy, a field's limits are never clearly bounded, and consistency works across infinitesimal thresholds. This holds temporally as well. Every process has uncertain periods of incipience, condensation, and resonance. You know when it's emerging, when it's consisting, when it's resonating, but not exactly when any of it started. Since my proprioception has multiple fluctuating states that never resolve, I can never fully divide my movement into steps. This is the deep ground for Manning's concept of preacceleration. This is also why we find ourselves always already in the middle of multiple relations.

Reductive attempts of locating movement in "something moving in a space" miss the point of what movement is as a field.

Bergson's famous claim that movement cannot be reduced to immobilities resonates with quantum physics's indeterminacy principle and is implicit in movement as fluctuation. Fields are the radical antipoints, the ontological blurs underlying and sustaining the universe's unfolding.

#### *3.1.6.3 Is There Displacement? Or Is It a Perspectival Illusion?*

If we seek recourse to ancient distinctions between three major types of movement — displacement, growth, and qualitative change — all of them can be seen as partial expressions of variations in rhythm, orientation, and contact. I thus reverse Aristotle's subjection of these types to displacement, and inversely claim that displacement is never simply such. It is always a very partial expression of fluctuations in a field.

Even if we look at a flock from the outside and see it displacing in more or less aligned ways, it is always transforming internal ratios. The same applies to a cloud. Equally, when an organism with proprioception, in the established sense, moves, there are always changes of internal relations, even as you walk from one place to another. The walking is only the last layer emerging from a multitude of molecular movements swelling up from quantum fluctuations through protein folds in cells to multitudes of involuntary movements in the body. From this flocking, multitudes of eventual vectors of displacement will appear, carrying the multitude that will make

the displacement fluctuate. Not to mention external inputs from the exteroceptive senses, the weather, or architecture. As I walk, I gesture in conversation, click on the smartphone screen, look at a shop window, always flocking around and shifting direction, walking swarms with multitudes of fluctuations, and it is only a tiny part of my movement, itself fluctuating all along. Even a mechanical displacement is all about internal relations within a larger swarm, such as the city or the room. We are constantly changing internal relations within a larger field, within many at the same time, actually.

We see then that the body mostly doesn't displace at all, and when it does, it's as part of a larger flocking. It transforms internal relations and relations within a larger whole or flock. The same can be said of the cells composing a body or molecules in a flow. Since Aristotle, one considers displacement in the molecular changes underlying growth and alteration of quality, but this misses the field dynamics of nature, the varying dynamics of movement that account precisely for every diverse type of growth and of alteration of quality. As morphogenetic field theories were promisingly proposing over a century ago, a growth process is a field dynamics unfolding an internal resonance. Displacement eliminates the immanence by which fields unfold their peculiar and open dynamics and indeterminacy. It homogenizes and subjects every process to a law of quantification and determination.

The fixing of swarms, and the attunement of internal with external ratios — as Bergson explains through the example of the two trains running at the same speed, generating an illusion of fixity when you look from one to the other — accounts for the illusion of displacement. In this way, I challenge Bergson's idea that displacement is, in practical life at least, a necessary part of movement. In fact, the ground of any practical life is in proprioception. The neglect and atrophy of proprioception is what leads to rule-based, exoreferential social fields.

Displacement implies moving along existing trajectories of a field where little qualitative change is happening, and quantity is the result of reduction in a field's plasticity. So, one could negate displacement on three levels at least:

— Most movements imply no displacement but internal changes of a proprioceptive field;
— Even if there seems to be displacement, this is just part of much more complex changes, like the proprioceptive fluctuations of a body as it walks; and
— Even if there seems to be displacement, this is only a change in a larger field.

The more something presents itself as pure displacement, the more it is expressing a reductive field of pure quantification, thus a field of domination–reduction that needs to be overcome. *It seems that measuring for the sake of controlling reduces, leaves out, or kills the essential openness of movement.* A science of transformation should not aim at controlling, but at regaining, sustaining, and heightening plasticity, openness, and variation.

…

At stake is a radical denial of the concept of space.[17] Not only is space an emergent quality of movement, but it is also a dispensable category that tries to measure it

17 I deal with how different philosophers have tried to overcome the notion of space-as-*a-priori* in Book 7, but, more importantly, how it was invented! On movement as prior to spacetime and cri-

and orient it by reducing it! A similar critique can be made of the concept of time, at least in its sense of *chronos,* not so much of *kairos*. The field is a spatiotemporal process that is never fully reducible to calculation and every reduction is a transformation that impoverishes.

As noted by Peter Merriman, perhaps there have never been spacetimes: "Perhaps space and time are themselves so entrenched in sedentarist, Western-scientific, social, political, and philosophical thinking that they underpin the violence wrought on alternative epistemological and ontological standpoints" (2013, 45–46).

#### *3.1.6.4 Alignments and the Superiority of the Open*

Let's consider, finally, a particular tendency that appears occasionally in fields and flocks of a transversal kind, that is, alignments. It's actually one of the observed aspects of flocking behavior. One could even apply it to matter or cells, though the foremost expressions come about in some human cultures, associated with domination. Planetary formation, molecular aggregation, or flocking behaviors can expose protoalignments of different kinds while still sustaining openness. Geometric alignment is the reductive cosmic anomaly that breaks the balance.

The fact that filaments or protogeometries in nature are never strict, always open, and irregular speaks of the superiority of irregularity and openness needed in a fluctuating world. Our open consistency has come up over 4 or 13.8 billon years of molecular dances and *could not have come long before.* Trying to control and accelerate the process, avoiding openness in favor of total control, as in dystopian terraformation projects, might collapse both the consistency and the openness of bodies.

Alignments happen when the internal relations composing a field reduce their emergence and partially fix themselves, orienting the rest of the field and imposing reductions on the richer variations and fluctuations within it.

Rest is a type of relative alignment in movement when certain relations are fixed. Since fixation is never possible in an absolute sense, what happens is that relations don't change much in a particular local swarm. It becomes a frozen swarm, isolated from other swarms, or synchronized with swarms that are equally frozen.

Vortexes are more complex kinds of quasi-alignment and ongoing disalignment. Arguably, they are the most pervasive expression of circularity and sphericity. Vortexes are fields of condensation and variation, always newly remixed, from galaxies to atoms, via the beating of mixtures of ingredients in the kitchen. A planet is a long-term effect of vortical accretion, and string theory seems to reenact aspects of Lord Kelvin's vortex theory of atoms. But both planets and atoms are vortical nodes within much more diffuse fluctuations, like tornados and storms in atmospheric flows. Following relativity, they are linear economies of movement in curved space. But curved space is a fluctuation of density.

Lines and trajectories, including curves, are a perceptual illusion resulting from perspective. When a movement is isolated from a background, becoming a form, and is translated into points and lines on a grid, movement becomes the geometric line of the displacement of the point on the grid. How strange and sad that such a reductive perceptual illusion has become almost the only way of thinking movement, pervading common sense, and orchestrating our worlds.

But alignments are not only about straight lines. Nowadays it's becoming more of a business of curves and surfaces. These topological curves in constant readapta-

tiques of other philosophers, see also Nail (2018a; 2018c).

tion signal a mode of more complex and flexible superalignment. Cybernetics is the science of predicting curvilinear deviations and readjusting them, steering them, controlling them. But this always implies mechanical trajectories. "Postcybernetic control" (Parisi 2013, 201) takes this further by trying to preempt and anticipate future deviations by introducing novelty in the design of immersive topological environments. We must now invent a different science, grounded instead in fluctuating proprioceptions — an art–science of *divernetics,* disalignments, and *clinaos* that may allow us to regain our lost plasticity, and take it further.

...

Are alignments a necessary condition for life?

— At the micro- and macrocosmic scale of matter, one could ask whether strings, as stable tunings giving rise to matter–energy–force interactions and cosmic inflation, or electron clouds, as metastable fields conforming subatomic particle–waves–vibrations at the core of matter, are alignments necessary for this universe to express itself as it is, or whether the gravitational singularities of stars and planets are necessary for life on Earth and for the dynamics of galaxies, where "inhabitable zones" lie between the violent area around the central black hole and the inert area in the periphery;
— At the micro- and macroscopic level of the emergence of organic life, one can ask if a certain regularity of patterns in chemical process is needed for organic life and for a certain circularity and linearity in cell membranes, proteins, and DNA, or in the filaments and centrioles of molecules and cells, or the protogeometry of carbon rings and molecules, which should be understood as economies of movement and relation;
— At the micro and macro level of the emergence of thought and technics, one can ask if or what alignments are needed for thought and societies to consist, and whether the Algoricene's alignments are needed for the type of thinking that this book is part of. Is reduction–domination a condition for culture? And even then, is it necessary or desirable — and if not, can we mobilize something different?

This book proposes to think beyond these dichotomies by suggesting that while the consistency of the open is the condition for the creative movement of life, including nonorganic life, excessive consistency at the expense of openness can diminish the creative movement of life. Oscillations are always part of swarming, fluctuating multitudes. Cutting off a single oscillation is making a cut across a field, that is, a perspectival cut.

There are no lines. There are only alignments, emerging from blurrier movement fields. Mobilizing plastic relations, movements, and perceptions is where relational freedom and "agency" can come about.

## 3.2 Openness (*Clinaos*), Consistency (Metabody), Variation (Intraduction)

### 3.2.1 Openness — Will to Power of Variation — *Clinaos*

#### *3.2.1.1 Aliveness, Sensitivity, Resistance*

When indeterminacy abounds with no consistency, we have no relational field. This holds for excessively dispersed gas clouds in the cosmos which express no condensation, for floating molecules in pre-Cambrian oceans, or for movements of opening in social bodies that are momentary gestures, unsustained. Though they may always be infusing some overall indeterminacy in the larger field, it is difficult to know when, or how, they will *reach consistency while retaining openness,* a crucial question for politics.

Inconsistent fields may be a ground for consistencies to come, just like excessive consistencies need to be exceeded into new plasticities.

Indeterminacy in this book is thought not as an absolute or abstract term. Indeterminacy is a degree of openness, and of resistance to determination or closure. The vibrancy, liveliness, sustained wonder, and open-endedness in the conviviality[18] of bodies is greater where a consistent charge of indeterminacy is maintained, when preexisting movements are not determining the field (as in our normative societies) or movements of one part are not imposed on others (as in violence and domination), but rather where there is a chance for movement to reciprocally attune (as in a joint improvisation in dance, conversation, or sex). The challenge is not to go back to a molecular Eden, but to invent new kinds of openness within the social milieus we already have.

Sensitivity and sensibility are intimately bound to indeterminacy, as reducing one implies also reducing the other. A rich sensible spectrum will most likely imply an associated rich sensitivity, while narrowing down the sensible spectrum and determining it will also reduce the possibilities for affecting and being affected that account for sensitivity, as capacity to open up to new compositions. The consistency of a musical instrument is in holding together a sensitivity, a capacity to vibrate in more ways, with more qualities, sustained and evolving over time in relation to many bodies and players. Consistency without openness is dead, affording no movement of variation, no fielding, no evolution, no varying resonance. Consistency is about affording richer variations in a universe's evolution.

#### *3.2.1.2 Indeterminacy and Uncertainty*

Indeterminacy as proposed here does not equal uncertainty. The latter can be a measure of violence in contemporary ecologies of control and domination, where unspecified effects of insecurity, risk, fear, threat, and controlled situations of *imposed uncertainty* are continuously engineered. The indeterminacy proposed here is the emergent capacity for creation, dissolution, reconfiguration, and resistance to dominant alignments within ecologies.

For instance, neoliberal violence is not about making people live in an indeterminacy understood as opening, but an already captured indeterminacy, an imposed uncertainty. Uncertainty is about keeping bodies moving following criteria of capitalization and optimization, of flexible adaptation, not plastic creation, which in

18 On conviviality, see Kagan (2020) and Del Val (2020c).

turn relies on highly rigid infrastructures of kinetic and perceptual organization, mostly perspectival media.

Global capital or big data systems may look like fluid and open ecosystems, but their movements are highly aligned. They rely upon millennia-old infrastructures of perception that align bodies with geometries, enforcing a continuous adaptation rather than promoting a more active and creative coemergence. They actually disable resistances altogether.[19]

> *Had Lucretius's vision of the clinamen prevailed, the world might be dedicated to chaos rather than order, Venus rather than Mars, love rather than death.*
> — N. Katherine Hayles (1990, 202)

> [*A*]*toms* [...] *deflect slightly from their straight course.* [...] *If they were not apt to swerve,* [...] *nature would never have created anything.* [...] *The atoms must swerve slightly, but only to an infinitesimal degree,* [...]. *If there is no atomic swerve to initiate movement that can annul the decrees of destiny and prevent the existence of an endless chain of causation, what is the source of this free will possessed by living creatures all over the earth?* [...] *The factor that saves the mind itself from being governed in all its actions by an internal necessity, and from being constrained to submit passively to its domination, is the minute swerve of the atoms at indeterminate places and times.*
> — Lucretius (1969, 41–42, vv. 216–92, translation modified)

### *3.2.1.3* Clinamen — Apeiron — *Chaos*

The *clinamen,* perhaps an Epicurean concept but brought to us by Lucretius,[20] is the implicit microdeviation of the atom from its trajectory, accounting for novelty and

19 My positive reconceptualization of indeterminacy thus radically differs from the one enacted by Claude Shannon (1948a; 1948b) in his mathematical theory of communication, where entropy, noise, or chaos were reconceptualized as a disorderly presence that needs to be turned into patterns.

20 The term *clinamen* appears in verse 292 of the second book of Lucretius's *De Rerum Natura*. For a translation see Lucretius (1969). Lucretius's book is perhaps the only complete great work from antiquity that has come to us that fully and positively expresses the visions of the pre-Socratics, in particular Democritus's and Leucippus's atomism and the later, post-Aristotelian elaboration of it by Epicurus. It exposes a worldview that in many aspects deeply counteracts those of Plato's *Timaeus* and Aristotle's *Physics,* as well as of mechanistic determinism. Its deep relevance is perhaps only starting to be known.

Lucretius's book is advancing many of the proposals of this book. In promoting the vision of a creative nature saturated with sexual energy (an energy not of dissipation but of creation and variation), a dynamic, endless, and immanent (proto-Spinozan) nature that continually experiments and where the human has no privileged position in his desire for domination, fear, militarism, religion, possessive romanticism, or subjection to illusions and beliefs that instil fear, and in his (again proto-Spinozan–Nietzschean) defence of joyful passions, of wonder, of this life, of an atheist and anarchist universe in heat. More important than the idea of the atoms is the *clinamen* as movement of variation, resonating with contemporary ideas of quantum fluctuations and cosmology. The *clinamen* expresses always new variations in long evolutionary spans and precedes aspects of Charles Darwin's theory.

In *The Swerve: How the World Became Modern,* Stephen Greenblatt (2011) exposes the importance of the rediscovery of Lucretius manuscript by the Italian humanist Poggio Braciolini in 1417 in a remote convent and the deep influence it had in Giordano Bruno, Galileo Galilei, Michel de Montaigne, Isaac Newton, and many others, permeating the entire modern visions of the world, through Albert Einstein and quantum mechanics, until today. Though one could say that modern science still lacks many of the core and more important aspects of Lucretius's proposal, those aspects resonate in Spinoza, Nietzsche, or Deleuze (the lack of transcendent plan, the movement of variation, the

freedom in the world. Euclid's contemporary, Epicurus, and after him Lucretius, expanded atomism in a post-Aristotelian world.[21]

I will propose to rethink the *clinamen* without implying a previous trajectory nor something that displaces, as quantum fluctuation, an ongoing, indeterminate variation of energy density, as always already being a relational interval and a power of variation. It signals a charge of intrinsic, unavoidable, but variable indeterminacy or openness, in fluctuating fields. As ongoing minimal variation, it presents the core aspect of how fluctuation fields forth and is thus the primordial technology of nature as process of variation. It is will-to-power-of-variation.

Following the old etymology, I will also refer to openness as *chaos*. I thus want to reverse the negativity associated with chaos as lack of order that is part of the morphocentric and Platonic tradition. For it is not enough to define chaos as disorderly presence that needs to be captured. In its ancient etymology, as in Hesiod's *Theogony*,[22] chaos is a yawning cave or abyss, an opening (Jaeger 1947, 13; Thomson 1954, 151) that exposes how a universe enfolds in ongoing variation but not necessarily as separation. I thus take distance from pre-Socratic accounts of movements of separation

dismissal of fear and certainties, and the embrace of movement's indeterminacy or, in Deleuzian–Nietzschean words, the eternal return of chaos, of difference as creative force).

21 Democritus's atom is described in purely relational terms (which have been ignored due to Aristotle's misreading) without involving the idea of trajectory or linear displacement that was later introduced by Aristotle by proposing displacement, *phora,* as overarching trope for movement, as I discuss in Book 7. Lucretius (and maybe also Epicurus, though we have no evidence of the *clinamen* appearing in his work) introduce the *clinamen* as means to bring back freedom and indetermination in an Aristotelian, causal world. The *clinamen* undoes causality by introducing indeterminate variation at the core of movement. The *clinamen* could thus be seen not so much as relational dynamics as in Democritus but as radical autonomy (Marx 2006), the *clinamen* being a deviation from any relational interdependence, eventually related to the sense of self emerging at the time from Euclidean and gridded environments (Reynolds 2012). Epicurus affirms an independent self capable of deviating from incipient gridded environments and linear movements. Lucretius's *clinamen,* however, is more complex. It is also the source for all the relations between atoms that compose the world, for all the creativity of nature. In this, it advances in visionary manner the contemporary primacy of quantum fluctuations in physics.

The atom in Lucretius inherits properties from Democritus and Leucippus: direction and orientation and dynamic mutual contact or connections, intervals, collisions, and encounters, which imply ongoing movement, while Democritean rhythm in Lucretius is both in the "shape" and in the relational bouncing that holds atoms together in motion (again a visionary advance of how the atomic nucleus in current physics holds together in motion). But Epicurus and Lucretius do add size, weight (hence the falling movement), and a stricter sense of form than in Democritus's *rhythmos.* The *clinamen* therefore responds to an Aristotelian shift by which movement has come to be thought as causal trajectories. The speeds, solidity, qualities, color, and so forth as well as the actual sensations stem from the density and the particular qualities of atomic combinations, happening through collision and bouncing–hooking relative to the smooth or hooked atomic shapes and their size and weight, spreading from the imperceptible atomic scale to the scale of our senses, often involving vortexes and always propelled by clinamental variation as intrinsic self-moving motor (again a complete undoing of the Aristotelian unmoving motor) and through the infinite flow of atoms composing and decomposing bodies in cycles of life and death.

22 Hayles comments in *Chaos and Order* on the reconceptualization of chaos as extreme complexity and orderly disorder. She expands on the etymology beyond the Greek roots into the Babylonian *Enuma Elish,* where she claims that Tiamat stands for an entropic tendency to dissolution. She contrasts this with the Taoist equivalent Hundun, whose etymology belongs to a "category of rhythmic compounds whose sounds enact their meaning" and which suggests "whirling water, flowing turbulence, swirling action" associated with what cannot be fully perceived and which dies when one attempts to fully perceive it as "necessary other" (1991, 3). I suggest that this brings Hundun in relation to the ancient etymology of rhythm as flow, as the type of fluctuation. This affords a positive reconceptualization of chaos that can extend also to the Greek and Babylonian tradition.

into sets of opposites from an original indeterminacy. Yawning — *khaskhō,* which is the etymology of chaos — best expresses this stretching as corporeal proprioceptive activity, that is, the ongoing waking up or being born of the proprioceptive field. Metachaos or *clinaos* is my proposal for reclaiming this ancient etymology, widening it as relational opening that fields forth. Its most radical expression is in cosmic inflation.

I propose to relate this concept of (meta)chaos as opening to the concept of indeterminacy, which is not an absolute term but a sensitivity and power of affection and composition, a resistance to determination, and a degree of openness in movement fields. Chaos as opening is the enfolding of a universe in a movement of ongoing variation (*clinamen*) that keeps alive and expressive the indeterminacy of fluctuation, that is, a relative indeterminacy that I refer to through its ancient Greek name as *apeiron*. *Apeiron* is the boundless, nondetermined, undefined, indefinite, indeterminate, that which lacks internal boundaries or limits. This thus implies a continuous movement that cannot be cut into pieces or subjected to limits from inside. Indeterminacy indeed implies a resistance to determination or closure, and to segmentation.

*Apeiron* is proposed as principle, or *archē*, of everything in Anaximander's pre-Platonic philosophy. Following Cornford (1976), *apeiron* relates to the boundlessness of the ring.[23] It is indivisible movement. In Bergson's concept of absolute movement as indivisible movement, this also means movement from within, which I associate with proprioception.[24] But *apeiron* is never abstract or absolute. It is a degree of openness as power of variation, vitality, and resistance to determination. RMP is an *apeirontology*.

Quantum fluctuations could be seen as a glorious reconceptualization of both the *apeiron* and the *clinamen,* as indeterminate principle of variation and substrate for any potential universe from which everything comes and to which everything returns. Echoing Anaximander, we can also say that injustice arrives when quantitative differentials of domination appear within fluctuation. Restoring justice would then not simply mean restoring indeterminacy as an absolute term, but restoring the movement of variation that expresses fluctuation in excess of reduction–domination.

The incipience of a field or metabody — its force of opening, sensitivity, and capacity to cocompose with others — is thus defined as *clinamen. Clinamen,* in turn, is conceived as opening and enfolding (chaos) to greater relative indeterminacy (*apeiron*). I partially bring these together in the neologism *clinaos*.

*Clinaos* or *metachaos* is the openness of fluctuation as sustained variation, the indeterminate field fluctuation un-/in-/enfolding in and as increasing but minimal ongoing variation, the primordial technology of nature.

*Clinamen, conatus,* will to power, *élan vital,* difference, *différance,* incipience, *qi, shakti,* vital force, *psychē,* vitality affect,[25] *mana, wakan, orenda, manitu, arungkilta,* or

23 Which in ancient Greece was associated with the circular motion of the heavenly bodies, as one of higher order because of its continuity.

24 See the first lesson in *History of the Idea of Time* (Bergson 2016).

25 Daniel Stern (1985; 2010) proposes the term vitality affects to define a broad landscape of affects and qualities (linked to the sense of vitality) that are not reducible to categories of universal emotions as defined since Darwin.

simply vitality: these are endless names it has received, mutating along with them.[26] *Clinaos* and *enferance* are my names for it, the latter also as process and onto-ethico-aestheticopolitics.

My concept of *clinamen, clinaos,* or *metachaos* defines the force of indetermination that characterizes movement's vitality not as will to domination but as power of variation. This force is also a *sensitivity,* as the openness of a field to compose with other fields. As such, it's also its affordance, its disposition and availability to become with others. Enabling or sustaining clinamental force is not just disaligning or deviating from a hard alignment that imposes itself but cultivating the sensitivity in movement's incipience.

There is a quantitatively intensified pleasure in aligning oneself with dominant gestures. It requires careful listening to distinguish this from the qualitative pleasure or joy of opening oneself up to variation and cocomposition with other metabodies. This implies sustaining rich sensible spectrums. Indetermining or disaligning implies deepening the sensitivity in movement and perception, the sensitivity of sensibility. In caressing with someone, there is a cosensing creating an emergent middle, but if I impose on you my gesture, hitting you, incipience and capacity for variation are narrowed down, sensibility and sensitivity closed down. If I walk along accelerated prescribed trajectories, it's unlikely that I will open up to the new. If I fluctuate as I walk, looking around, propriocepting, hearing and smelling, wandering here and there, I may be more open to the unexpected. Sensitivity and sensibility go together, as a rich sensible spectrum may imply greater sensitivity.

The *clinaos* is an invitation to think the openness in any situation. How many degrees of freedom are there, how much alignment, how much potential for variation? How much determination is there, or indetermination? How vibrant and alive is the situation? Does it afford new movements? Do these new movements compose with others in a sustained manner? How to open up alignments?

*Clinaos* is also a way of thinking openness as a subtle variation rather than a structural collapse. This is crucial for a metatopian movement politics, which aims to infuse openness in aligned ecologies by moving differently, always only a subtle variation. If you collapse a structure, its underlying movements will recompose their inertias. That is why revolutions often reinstate similar regimes to the ones they make collapse. A movement r/evolution should imply an evolutionary leap toward greater movement plasticity, one that will reveal itself in the tiniest variations and which any body, no matter how apparently immobile, could enact.

The concept of *clinamen* or *clinaos* resonates with Nietzschean conceptions of the body as field of an irreducible multiplicity of forces, and to Spinozan accounts of the body as defined by movement, not substance, in its capacity to affect and be affected and composed with in as many ways as possible. For Spinoza, the body's capacities cannot be known. This points to the conatus as an *increase in the sensitivity of a body.*[27]

26 And current science arguably calls it quantum fluctuations. However, it lacks an active principle for it, which I propose in this book with *enferance* or *clinaos.* Instead, there's been only the proposal of a negative principle of entropy that gets mysteriously counteracted by a strenuous negentropic fight.

27 See Spinoza, *Ethics,* Part IV, Proposition 38: "Whatever so disposes the human Body that it can be affected in a great many ways [increasing sensitivity], or renders it capable of affecting external Bodies in a great many ways [increasing compossibility in relation to sensitivity or openness], is useful to man; the more it renders the Body capable of being affected in a great many ways, or of affecting other bodies, the more useful it is; on the other hand, what renders the Body less capable of these things is harmful" (1985, 568).

Here, Deleuze (1986b, 62) traces a deep connection between Spinoza and Nietzsche when he identifies the will to power with the sensitivity of the forces, the power to be affected. But while Spinoza was visionary in identifying this sensitivity, he did not take it to the level of an active will to power, which formulates the *conatus* more in the sense of a preservation. I relate Manning's (2009) concepts of incipience, relational interval, and preacceleration to the *clinamen* or *clinaos* as differential force of opening in movement. The highest affirmation of becoming is in the very interval, the opening of preacceleration, maximizing indeterminacy as power of affection, that is, *sensitivity as power of variation and will-to-power-of-variation.*

#### *3.2.1.4 Incipience — Preacceleration as Opening — Indeterminacy*

Manning's (2009) concept of incipience expands on this force of opening in movement as an always already relational interval, related to preacceleration, that is, the capacity of a body to deviate in the moment of suspension before it actualizes in a particular, Newtonian acceleration, defining a displacement in an extension.

Incipience accounts for the fact that movement is always opening up to other movements and has always already begun, shifting the focus from an actually accelerating movement, as in the step I take, to the openness of the incipient impulse enveloping the step, as both its incipient futurity and its open memory, that is to say, an enfolding and interval where a change can happen, where I can shift direction. Manning (2015) explains this through a double interaction of microimbalances or micromovements in the body and of how thought is also a virtual movement that will affect the balances, a double infinity of variations.

I expand this idea through the proprioceptive swarm, where the fundamental state of the body is always already fluctuation, and displacement is just a part of this activity, an occasional vector that stands out within a much broader fluctuating field that is always alive in its multiple layers and modes.

As discussed in Book 2, *movement is always already premovement.* Incipient fluctuation exceeds any rationalist reduction into causal trajectories. Bodies always, to some degree, cosense an elastic change in dynamics (dancing together, making music, in conversation, or sex), a dynamics that is emerging here and now, intraducting in excess of any previous plan. This is the core activity of movement fields in the universe. The idea of preestablished plans is an anomaly arising in teleological, causal, perspectival environments, and ensuing in planetary-scale destruction.

This cosensing happens in the interval of preacceleration and premovement, of bodies proprioceptively feeling the incipient change of intensity and dynamics in the reciprocal fluctuation of tissues, tensions, and torsions. It's a matter of fluctuations cocomposing while retaining their indeterminacy, their sustained momentum. This attunement of incipient dynamics is, I suggest, at the core of every activity and of life itself as process of creating fields of movement relations.

How open is incipiency in different situations and movements? Think of a superhighway or digital interfaces versus a blurry path. The superhighway affords very little incipience, as bodies are superaligned in trajectories which are the long-term, multilayered, and multiscalar offspring of perspectival regimes. Incipience on a highway is foreclosed to a number of traceable decisions. Movement on the highway is superaligned. Superhighways are fully exoreferential. They impose a given linear logic.

In digital interfaces, proprioception becomes algorithmic and exoreferential, reducing the spectrum of gesture to traceable and discrete causal units of clicking.

Clicking is the ultimate reduction of movement to a point and a binary causal relation. These hypergestures are traceable, because they are reductive and happen in relation to the affordances of the interface which orient and impose a reductive field of possibilities and linear, binary, and discrete relations. Your choices are given by opaque algorithms that try to preempt your future by detecting emergent tendencies of desire–behavior in populations–markets.

But in other situations, the swarm of 360 joints that you are is moving in many directions at the same time, or in no direction at all, hovering around and fluctuating like a flock, suspended in the ongoing, multidimensional momentum of its movement field, opening up to swarming multiplicities. Wandering along a path is a situation less aligned than the highway, and movements are more open to deviations if we allow them to happen. Affordances are diffuse, trajectories are blurry, indeterminacy flourishes to a considerable degree. Walking, then, isn't so much about displacing in Cartesian coordinates as it is about relating to an emergent sensory landscape, cocreating a field of dynamic relations. A torsion of my head follows a caress of the wind, and then a flower scent takes me to unexpected wanderings.

Paths versus highways; multisensorial–proximity sex versus perspectival porn; dancing together versus conversation face-to-face versus videoconferencing versus typing on Facebook; reciprocally caressing versus hitting: in each affordance or situation, different degrees and modes of indeterminacy and alignment are at stake.

Incipience is also an excess of any reductive linearity and implies an irreducible surplus value that movements may or may not capture for their future evolutions, whereby any capture implies reduction. Massumi theorizes in *Ontopower* (2015, 220) this will-to-power of tendencies to reach their highest expression, and how any left-over or surplus needs to be fed back in the process toward even higher self-affirmations. I suggest that tendencies that capture this excess into alignments — tendencies of movements to become quantitative forces that want to expand unlimitedly — express a will to domination and imply a reactive force of separation, a tendency that imposes itself.

Instead, active affirmative tendencies are those in which the surplus value of movement, its excess and incipience, opens up the field of compositions to further variation. This is an even higher affirmation of will-to-power, not as domination, but as intensified capacity for affecting and being affected, which, unlike in Spinoza, implies changing the form of a body. Ultimately, though, there is no form, only a field enfolding, *maximizing its fluctuating force, as power of variation.* This is what I propose as a *counterontopower* that works against tendencies to capture in alignments that intensify by reducing, in becoming quantity.

The degree of sustainability, health, and freedom of a metabody has to do with the maintenance of clinamental force, as a sort of Spinozean *conatus,* but not as preservation, rather, as a dance of consistency and openness, holding together a plasticity or capacity for mutation and recomposition, a movement of variation in evolution.

> [*T*]*here is no reality apart from the body.* [...] *To know the body is to know all than one can ever know, and to know what one cannot know.*
>
> — Marco Vassi (1976, 220)

> *If one really thinks about the body as such, there is no possible outline of the body as such. There are thinkings of the systematicity of the body, there are values codings of the body. The body as such cannot be thought, and I certainly cannot approach it.*
> — Gayatri Chakravorty Spivak (1989)

> *There is never a body as such: what we know are edgings and contourings, forces and intensities: a body is its movement.* [...] *A philosophy of the body never begins with the body: it bodies.*
> — Erin Manning (2015, 114)

> *Not only did bodies tend to indicate a world beyond themselves, but this movement beyond their own boundaries, a movement of boundary itself, appeared to be quite central to what bodies are.*
> — Judith Butler (1993, ix)

> *The charge of indeterminacy carried by a body is inseparable from it. It strictly coincides with it, to the extent that the body is in passage or in process, to the extent that it is dynamic and alive.*
> — Brian Massumi (2002, 5)

### 3.2.2 Consistency — Metabody

#### *3.2.2.1 Open Consistency — Relationality*

How does consistency come up within movement?[28] If we consider movement as fields fluctuating, this has to do with density regions and their relations.

This leads to *movement as always being relational*,[29] as Manning (2009) proposes, and to the field nature of movement. The primary relationality is the one constituting the field itself as proprioceptive microcosmos, and how it varies in relation to other fields. Relation is thus always about reciprocal transformation.

The question that some might ask is, *relations between what?* Ultimately, relations are always between movements, between energy density regions tuning into increasingly complex fields of resonance. Relations of relations, of movement within movement, down to vacuum fluctuations. At stake is to think of the differentiations of energy density regions not as *separation*, but as *attunements* composing a field of resonance of increasing richness in which tensions between different oscillatory frequencies never resolve, as in Simondon, but constitute an always varying tensional field.

How does consistency come about? A spacing energy bubble defines a boundary region wherein internal difference proliferates, relationally bouncing with other regions, metabolically webbing with them in speciations, constituting ecosystems, and potentially remixing with them over time, giving rise to new fields.

A field's tensions are never just between opposites. The lyre string that exemplifies Heraclitus's and Nietzsche's idea of opposing quantities of force needs to be

28 See Rojas Osorio (2001, 163), on the proposal to shift from metaphysical essence to consistency, in moving from being to becoming.

29 On the relational nature of movement, and on it being intrinsically a creative process, see Nail's concept of *symkinesis* or *kinopoiesis*: "But even the idea of symbiosis does not go far enough. It stops at life and goes no further. We need another, more encompassing, idea that gets at the immanent contribution of nonliving matter as well. This is what I call *symkinesis* or *kinopoiesis*: the coemergence of matter through and as motion" (Nail 2021, 138).

reconsidered because the two forces holding it in tension are nothing without other forces enacting the endless vibrations. In the violin, it is the endless variation of pressure, vibrato, intonation, and articulation, both in the left hand and the bow, activated in the endless nuances of the body's proprioception, distributing its tensions.

This fielding, as composition of a field of resonance that holds together while transforming, is also a bodying. Manning (2013) suggests that there is no body as such. The body is its movement. It is a process of bodying. The body, as bodying or fielding, is thus an expression of consistency in movement.

My concept for this is the *metabody*, where *meta-* means in-between or relational, but it also means exceeding, incipient, moving beyond, mutating, in transition, in-becoming, always composed of other bodies. And every field already is a multiplicity of fields. The relational is thus also in the way in which every body(ing) is always in the convergence or transmergence of multiple fields, in a double or triple movement of variation: (1) holding together, how regions within regions create zones of density (*internal resonance,* in Simondon's terms); (2) recomposing in variation, how rhythms reattune; and (3) transducting across other fields, how zones of density propagate their rhythms like waves. These three movements happen all at once and between many fields in constant reattunement. They relate nonlinearly to another triple movement of opening and incipience, composition and condensation, and resonance and memory.[30]

30 A first mode by which fields hold together is in the way differential regions of energy density appear within regions, such as microcosms of fluctuations within fluctuations, differentials within differentials. This may happen as a region itself radically expands or contracts, as in the inflationary process of a universe's Big Bang, as primordial spacing within and along which always new fluctuations appear. Foam bubbles are a great expression of this process by which regions of energy density expand and contract in relation to neighboring regions from the inflation of a universe to the gravitational condensations within it. Bubbles as density regions are separated by filaments, as in galactic filaments containing the density nodes of the galaxies and stars that metafractally fold within. The bubble is an expansive field of dark energy and ordinary energy, and the filament is a condensation of dark matter and ordinary matter, the latter giving rise to radiation through nucleosynthesis. Bubbles as density regions thus account for the most typical protoalignments in nature: filamentous and spherical or vortical (differential sphere). An expanding universe is itself a bubble in a larger multiverse. Bubbles are at the source of cell membranes, while filaments give rise to the complex folds of proteins and DNA in organic life. Both are expressions of fluctuation's energy density distributions.

A second mode by which fields hold together in variation is through reciprocal affections between regions and their sustainment, so that if an affection between density regions gets started, under certain circumstances it may bounce back and forth and stabilize as an excitation and oscillation — like in subatomic oscillations stabilizing during the Big Bang. This may depend on surrounding densities that may push back the affection of a fluctuation, ensuing in an oscillation that stabilizes when energy density gradients are crossed in the larger unfolding of a universe. This dynamics between unfolding and infolding seems to be crucial in accounting for the overall enfolding of a universe. The fact that a particular type of oscillation stabilizes at an early high-energy threshold and transition in the formation of a universe accounts for the prevalence of certain quantum fields in a particular universe, in our case the electromagnetic, strong nuclear, and weak nuclear fields, whereas the gravitational is a movement economy at larger scales. Oscillations are bound to more indeterminate excitations of the field (virtual particles).

A mode related to the previous is the propagation of rhythms (distance changes) within preexisting mediums, as in waves, or the contagious gestures propagating in perspectival media.

Lastly, established regions may change internal orientations and proximities between one another as in a swarm, at diverse speeds and rhythms: the swarming mode. The endless variety of rhythms and speeds, distances and contacts, and orientations and turns between energy density regions accounts for all the infinitely varied expressions of nature. For instance, the extreme density in the nucleus of stars leads to nucleosynthesis (nuclear reactions leading to new elements) and radiation. All chemical bonds of nature are about the further tuning and diversification of relations

There are as many diverse movements as there are fields or metabodies. Every bacterial colony on Earth is a field, as is every social or individual body or atmospheric phenomenon. They are entangled without forming a totality.

A body is its field, a multitude of fields, entangled but open. Fields are the opposite of bounded place or measurable space. *Borders are anomalies* coming from the aberrant periods dominated by ontology. The body is modal, a self-organizing field of sensations with endless possible configurations, qualities, rhythms, intensities, and variations, but key is its openness.

#### *3.2.2.2 Metabodies*

Metabodies are fields of movement relations holding together in variation. They are a way of thinking fields as always already corporeal movement relations of which we are always already part, always in variation, always relational, always many at the same time, always holding together multiple unresolved states, and therefore always ontologically indeterminate, but to greater or lesser degrees since alignments may happen in various ways. Metabodies are fields of symbiotic mutation or relational variation: this is the double meaning implicit in the *meta-* prefix.

Metabodies are both emergent movement fields in transformation–variation and a means of interpreting them, for the sake of better moving with them.[31]

Metabody as a concept–movement,[32] or metacept, allows us to think in-between existing categories. It is about shifting thought to the relational and incipient.

Metabody is also a verb. Metabodying is the process of crafting oneself metabodies with others.

Metabodies are defined by a *mode* of composition–variation, a *degree* of plasticity and a *depth* of memory. The mode is the dynamics of their holding together in variation, the degree is the vitality as capacity to vary while holding together, and the depth is the sustainability and resilience which also underlies the sensibility and openness of a field.

Metabodies are fields of internal and relational resonance, thus very close to Hartmut Rosa's (2019) concept of resonance as open, indeterminate, irreducible, differential relationality and aliveness,[33] very much related to nonverbal spectrums. In

between more primordial oscillations holding together. Swarming behaviors emerging between energy density zones in fluctuation can be seen across all scales, from star and galaxy clusters, through organisms, to atoms and molecules. In sum, bubble dynamics of spacing and condensing, along with oscillatory dynamics of fields that include propagations, and swarming dynamics all happen together.

31 This brings metabodies surprisingly close to the pragmatics and thought of the Chinese *Yijing*, a naturalist pragmatics for interpreting the cosmos as made of *incipient processes of change, transformation, mutation,* or *becoming.* I will elaborate on this in more detail in Book 7 on movement philosophies.

32 For updates on this moving concept and its associated projects, see "Metabody, Concept", *Metabody*, https://metabody.eu/metabody-concept/.

33 According to Wolf (2023), Hartmut Rosa (2019, 38–44) distinguishes four elements of a resonant relationality: touch, response, transformation, and reciprocity: all of them involving indeterminacy.

Rosa also claims the incontrollability of the world and the need to move away from attempts to make all the world available (*verfügbar*): "Resonance is a kind of relationship to the world, formed through af←fect and e→motion, intrinsic interest, and perceived self-efficacy, in which subject and world are mutually affected and transformed. Resonance is not an echo, but a responsive relationship, requiring that both sides speak *with their own voice.* This is only possible where strong evaluations are affected. Resonance implies an aspect of constitutive inaccessibility [*Unverfügbarkeit*]," the final term meaning nonavailabality of the world to the predefined definition of its possible resonances, or to exploitation and control (Rosa 2019, 174).

Rosa, resonance is the opposite of alienation, the latter being a mode of relationless relation, a dumbness, exemplified by depression or burnout, both personal and planetary (the burnout of the planet taking the form of climate change), and associated partly to the systemic acceleration of life. According to Rosa, "resonance is produced only when the vibration of one body stimulates the other to produce *its own frequency*. Thus even at an acoustic or physical level, we can establish that two bodies in a resonant relationship each speak with "their own voice" (2019, 165).[34]

Metabodies also resonate with Massumi's (2002, 179–92) concept of the biogram, as a kind of diagram of the moving body that is not mainly guided by exoreferential cues but has (*archē*)proprioception as its general plane of reference. They also resonate with Timothy Morton's (2013) hyperobjects, as sticky, viscous, nonlocal, diffuse bodies that create their own spatiotemporal conditions, existing at a high-dimensional phase and partially perceivable through the effects they create between other bodies. But I carefully avoid the notion of object, for its perspectival implications that place us implicitly outside of it. With metabodies, we are always inside, in the middle and across its relations, and can actively move with them in always new variations. In a similar sense, metabodies may resonate with Michel Serres's (2007, 224) and Bruno Latour's (1993, 51) quasi-objects. Again, I am doing away with object-oriented ontology altogether, shifting to movement ecologies. As metacept, the metabody is an antiobject that resists ontological closure and fixation.

One could expand this by inquiring about the alienation that human dominion has cultivated in relation to the biosphere and all other life forms, but also to itself, since the Neolithic, with deep pathological manifestations both at individual and corporeal level and at social level, as I expose in Book 5 on the Planetary Holocaust and trash-human unhancement.

34 At the same time, Rosa considers two modes and steps in resonance: adaptive and synchronous (2019, 166), the latter being often a follow-up of the former, so that resonance involves a certain synchronicity both in physics and in psychology. Rosa is clear that resonance is not equivalent to harmony, can involve dissonance, and is intrinsically differential, involving the ontological irreducibility of the other. The in my view problematic association of synchronicity with resonance needs to be cross-read with Simondon's account of internal resonance and of openness in individuation and transindividuation as implying the being out of sync with oneself (preindividual potentiality), which means that a lively resonance can never be about complete synchronicity with oneself or others, but is about the nondetermination and nonimposition of movements on others, whereby all movements cocompose.

In my proposal, internal resonance is also internal difference proliferating without the imposition of some movements over others. So is relational resonance as the proliferation of variation and diversification of movements cocomposing without the imposition of some movements over others. There cannot be relational resonance or difference without internal resonance or difference, as internal difference allows a body's recomposition with the world. For this, I later propose the overarching concept of *enferance* as open resonance that implies both internal difference, relational difference, and spacing or field-forming.

Another problematic aspect in Rosa is the seemingly essential nature of alienation as background mode of relation to the world (184), wherein resonance is seen as momentary event that works against alienation. But isn't alienation the mode of relation proper to systems of dominion emerging since the Neolithic and especially since industrialization, only growing further with digitization? I associate alienation to alignments as the reduction of variation and openness in movement.

By focusing strictly on movement–perception and on a Radical Movement Philosophy approach, metabodies account for how we are part of highly problematic fields of alignments, such as food systems based on massive animal abuse and environmental destruction, both of which are inseparable from destructive effects on human health, or alienating systems of relations based on perspectival–algorithmic media and social control, both of which I analyze in Book 5. Acceleration is itself an effect of alignments that homogenize movement, favoring quantitative accumulation, the novel economy inaugurated with farming in the Neolithic and which is a reversal of the evolutionary principle of diversification, remix and flow that we will call *metabiosis* in Book 4.

Metabodies are never fully formed. They are always more or less Bodies without Organs (BwO). The unreachable limit is in fact the Body *with* Organs, the fully formed, organized, and extensive body. In other words, the organism is just one of the endless modes of a body. The problem is how it became a dominant model in disciplinary societies.

Metabodies are zones of open consistency, resonating with Deleuze and Guattari's notions of the plateau, where the great eco-ethico-political challenge is to make such zones sustained and sustainable — never opposing a separate plane of organization. Rather, organizations or alignments are eventual expressions in metabodies along degrees of a spectrum.[35]

Metabodies are not about absolute deterritorialization, nor are they about territorialization. Both territorialization and deterritorialization are partial expressions of metabodies, which mostly hover in-between, but not in a bipolar oscillation. When a tendency to excessive alignment imposes itself, chances are high that a bipolar dynamic will ensue, oscillating pendulum-wise between superalignments and extreme disalignments, missing the more sustainable in-betweens. Metabodies are not opposing strata, structures, or forms. Rather, these are occasional expressions within metabodies. The degree of plasticity in rhythm is key. It's never purely random flow, nor pure repetition or measure. The different kinds of rhythms create more or less aligned fields — some of them becoming territories, or even maps.

Bodies are always more or less intensive, never fully extensive. Extension has flattened experience through geometric space, anatomy, form, and perspective. We need techniques for recovering the irregularities that afford a better place for the incalculable in our becomings.

What accounts for a *metabodying,* the emergence of a new field or metabody? It's always the quality, the affect, like when a particular timbre and texture comes up as sustained but changing quality of affective resonances. It can have diverse degrees of depth or thickness in the resonance (memory) and diverse degrees of plasticity and openness, aliveness as power of variation-in-consistency. Again, degree here is never an absolute quantity. Rather, it is a measure relative to the field itself and to its potential to relate.

A metabody is the new quality in a composition that creates a new memory and resonance, and thus the possibility for further new variations to emerge (as in Simondon's concept of the transindividual, as that which affords a transductive relation). Most (meta)bodies are nebulous (cosmic nebulae, clouds, bacterial bodies, water, ice, gases, plasma, geological strata), while others seem to have higher levels of definition, though the latter is more a property of certain types of perception coming up in highly aligned geometric fields. A "human" body reconceptualized as proprioceptive field becomes an amorphous, nebulous field, as does an atom or a star system.

#### *3.2.2.3 From Body to Metabodies: Transmergent Dynamics*

Bodies have traditionally been thought of as bounded entities. The quotes opening this section question this tradition, affirming that the body as such, as defined and bounded entity, cannot be thought, because the body is a movement field that exceeds any possibility to fully fix or bound it. This movement beyond boundary is

35 See Braidotti's text "How to Endure Intensity" on the need for an ethics of transformative forces (2001, 177).

"central to what bodies are" (Butler 1993, ix). The need to exceed the given accounts of the body as a bounded material entity has been expressed in circles of critical thinking and mostly feminist in the transition from body to bodies (Grosz 1994, 19), to embodiment (Hayles 1999, 196), to bodying (Manning 2013), and now to metabodies or metabodying. As Massumi also points out, the body moving cannot correspond to itself as bounded entity but only to its transition and variation. It *strictly corresponds to the charge of indeterminacy of its own variation.* Massumi (2002, 5) proposes ways of thinking that variation as a virtual-but-real incorporeal materialism dialoguing with the defined body-as-entity — the body positioned in a grid — and opening it up. I propose ways of thinking the body as a consistent-but-open variation without seeking recourse to the virtual, and without considering the body as bound to a relation with a form, grid, extension, being, or boundary.

Rethinking both the body and the subject as metabodies means to overcome the historically reductive ways of conceiving the body as a material and bounded entity, or the subject as an autonomous, disembodied, rational entity. This enables more open and sustainable ecologies capable of resisting and exceeding the modes of domination of an algorithmic culture that already bypasses the traditional notions of body and subject. My claim is thus that (1) we still hold on to old conceptions of body, subject, and world that are extremely reductive, stemming from disciplinary society, while (2) algorithmic control has already moved beyond them, operating on other, more dynamic and imperceptible spectrums, which implies that (3) in the face both of old and new forms of domination, we need to mobilize a multifaceted, protean politics of movement. We need a metaformative politics of perception that is not limited to changing our position in the grids of reduction but one that counteracts the reduction itself, to continually reinfuse and further a lost richness and indeterminacy in movement.

Rethinking everything as metabodies of which we are part is thus never just a "descriptive" or representational activity that reinstates categories, or even one that "performatively" shifts categories within the discursive grid. It is a metaformative activity that allows for new kinds of more plastic movements to happen. It is a plastic realism.

The body, and matter more generally, has its own dynamics. Aristotle's concept of matter as abstract and passive substrate has haunted all thinking of materiality even as it became a crucial mantra in feminist or queer theories as the undervalued term to be claimed back. But it needs to be claimed back in its irreducible and emergent dynamics. *What needs to be claimed is not materiality, but movement.*

Bodies have no clear boundaries, but rather zones of condensation. Every metabody, like every atom, extends in the entire universe (this is its wave function). Its range of consistency is more limited although never completely defined by a boundary line. Its possible intra-actions and rhythmic attunements are not predetermined, as is the case for other atoms and the larger molecules they compose. Furthermore, what defines these zones of consistency that may relate to each other are movements, rhythms, and momentums. In what looks like the same Cartesian space, endless fields of movement relation are maybe coexisting, without necessarily talking to one another or composing together, such as the perceptions of different people in a same house or neighborhood, the swarms of cells and bacteria in and around us, electromagnetic signals, and so forth. Sometimes they affect each other in their process of transduction, and sometimes they diffract likes waves across one another. If I consider "my body" as a metabody, it is as a compost of bacterial, genetic, neural,

chemical, material, cellular, social, urban, capitalist, informational, affective, normative, perspectival, and other metabodies. I am a complex interval or hiatus happening in that irreducibly complex transmergence.

What metabodies are we part of, and how do we cocreate them? This is not a question of involving a human actor. Rather, it's a question of decentering that actor toward an ecology, while questioning the ontological split that sustains the fiction of an absolute otherness as much as that of a bounded inside. The questions when approaching any field and metabody from within are:

1. What is its balance of consistency and openness (and thus its plasticity, intelligence, and power of variation)?
2. What are its rhythms, orientations, and contacts (affects–qualities, desire–spacetimes, sexes–mutant compositions) composing its internal resonance, sustainability, memory, and *technē*?
3. What is its process of intraduction in terms of emergent compositions or reproduction of alignments, and of what kind?
4. What other fields do we see it transmerging/composing with, and what are the qualities of these relations (or, as variation of the previous inquiries, how many metafields do we see composing it, and what is their transmodal relationality)?
5. How are we part of the field and metabody — more or less actively, more or less deeply, more or less contributing to its transformative emergence or reproducing alignments?

What is its openness in consistency (intelligence, *clinaos,* will-to-power-of-variation), its dynamics (thought), its resonance (memory and *technē*), its process of emergence, (intraduction), its evolution and propagation, and what is our part in it all? Or rather, not how *is* it, but how can it *vary*?

A metabody never *is,* but *is-in-variation.*

Openness in a body–field can be understood as the capacity to vibrate with other fields. Suely Rolnik (2006), echoing Guattari's virtual, claims what she calls the vibratory body, but places it in opposition to the historically dominant "cortical capacity" to focus on form and representation.[36] But the metabody is not in opposition to

36 A metabody is a vibratory body, defined by Suely Rolnik as "the capacity of the body to vibrate with the forces of the world," whence "the other is a living presence made of a plastic multiplicity of forces pulsating in our sensible texture becoming part of ourselves." But, echoing Guattari's virtual, she places the vibratory body in opposition to the historically dominant "cortical capacity" to focus on form and representation (2016).

Rolnik suggests the Möbius strip (following Lygia Clark's work *Caminhando*) to approach the paradoxical interrelation between formal perception and the vibratory body as open to the virtual and unformed, and she focuses on subjectivation processes as the process in which that tension resolves. Again, I will not take this double-sided Möbius strip account of the formed–actual versus the vibratory–virtual. Rather, I look into formed perceptions as a reductive tendency within the vibratory body itself, not focusing on subjectivation but on the sustained openness of movement ecologies as grounded on proprioception.

The metabody is not in opposition to the represented, subjective, perceiving body. The latter is the anomaly, the tendency to flatten the body, which is always only vibratory. There are infinite modes of vibratory body and of techniques for mobilizing it. There is no infinite abstract virtuality of the vibratory body and no body without vibration. Proprioception and multimodal sensing literally activate the presence of the world and the others inside you. When you mobilize the alloceptive swarms, the presence of others is indeed activated in emergent movements inside you and across you, as Rolnik suggests. But this is always the case, also in levels of experience related to form and

the represented, subjective, perceiving body. The latter is the anomaly, a tendency to flatten the body, which is always only vibratory. There are infinite modes of the vibratory body and of techniques for mobilizing it. There is no infinite abstract virtuality of the vibratory body, and no purely extensive body exempt of fluctuations.

*Freedom as such — as an act of perception — is without form.*
— Clarice Lispector (2014, 103, my translation)

*But all reiterated form is imposed rigour; life in freedom doesn't repeat itself.*
— Maria Luisa Caturla (2021, 85, my translation)

*There is no form, since form is immobile, and the reality is movement.*
— Henri Bergson (1944, 328)

*Because it is great Tao lacks form.*
*If we could give it form, it would have lost its greatness.*
— Laozi (1977, translation modified)

#### 3.2.2.4 *Amorphogenesis and Metamergence — Antiobject Philosophy — Form Is the Oppression of Movement*

Proprioception and multimodal sensing activate the presence of the world inside you. This may appear strange or even esoteric, because of the predominance of perspectival vision and its Cartesian assumption of disembodied observers, where relation becomes the anomaly. But this transduction of fields across other fields is always happening, even in levels of experience related to form and control, as transduction becomes choreographed in precise ways by narrowing movements. This is precisely what we need to account for, that is, the radical ways in which perspectival media penetrate bodies, aligning movements, thoughts, experience, and affects, because they still operate in and through proprioceptive attunements.

Bergson gestures toward a radical movement philosophy in saying that "there are underneath the change no things which change" (2007, 122). And in "reality the body is changing form at every moment, or rather, *there is no form, since form is immobile, and the reality is movement.* What is real is the continual change of form, where *form is only a snapshot view of a transition*" (1944, 328, emphasis mine). Form is an illusion of a type of reductive perception, an illusion of bounded fixity that we call object and form.[37] Radical Movement Philosophy is an antiobject[38] philosophy that proposes ways of thinking movement as not necessarily object-directed, nor based on subject–object splits. Objects as separate bounded entities, like lines, are perceptual illusions. These illusions have become violent realities as an entire world of object-

control, as transduction becomes choreographed in precise ways, by narrowing movements. This is precisely what we need to account for, that is, the radical ways in which perspectival media penetrate bodies, aligning movements, thoughts, experience, affect.

The cortical capacity tending to formalization is a narrowing expression of a broader Body Intelligence. But forms still make sense through proprioception.

37 Object Oriented Ontology eventually takes perspectival perception for granted in assuming this ontological separation and expands it by further assigning objects a completely independent status, whereby autonomy implies assuming a perspectival split.

38 Brian Massumi proposes a "nonobject philosophy" (2011, 6) in relation to things "having no essence other than the novelty of their occurrence." Here, I will work against the object and its peculiar perceptual foundations.

oriented perceptions has been constituted. Illusions appear when one projects onto the world an already established perception, a perceptual alignment that pretends to be a universal truth. Perspective is all about producing and projecting illusions. Illusions are violent hyperreal alignments.

By weakening[39] or undoing the ontological hardness of objects, the boundary of the subject also becomes more permeable. Undoing object ontology implies undoing form ontology. *Amorphogenesis* (or metamergence) is the *generative power of movement as irreducible to form.*

Form is not a necessary expression of movement. It is a reductive anomaly. Form is the *oppression of movement,* or, differently put, it is a reductive expression of it.

Form is the illusion of perspective, of an altered perception, and of a neuronormative condition which is in fact pathological, because it is reductive and dominant, enacting systemic devastation, that is, an extinction cycle.

Amorphogenesis is the reversal of the Aristotelian subjection of movement to form. It understands form as an effect of particular movement conditions that turn against movement itself, narrowing it. At the core of this reversal, this counterphysics, is a revival of indeterminacy and chaos as affirmative force of opening.

> *The minor is a continual variation on experience. It has mobility not given to the major: its rhythms are not controlled by a preexisting structure but open to flux. In variation is in change, indeterminate. But indeterminacy,* [...] *is often seen as unrigorous,* [...]. *The minor thus gets cast aside.* [...] *This is the downside of the minor but also its strength: that it does not have the full force of a pre-existing status, of a given structure, of a predetermined metric, to keep it alive. It is out of time, untimely, rhythmically inventing its own pulse. The minor gesture's indeterminacy, and even its failure to thrive, is what interests me here.*
>
> — Erin Manning (2016, 1–2)

### *3.2.2.5* Metakosmia — *Minor Ecologies* — *Microsingularities*

Metabodies are *metakosmia,* that is to say, they are the multiple in-between worlds in Epicurus's philosophy. Before space was invented between 600 and 300 BCE, as suggested by Cornford (1976), and with it the idea of a single world and order, or *kosmos,* it's almost inevitable to think that there had to be many worlds: *kosmia.* Every mode of "order" is a world, as is every type of movement field. Mechanism subjected the universe to a single order, but now we are seeing a more complex vision return.

What's interesting about the Epicurean concept is its double turn, not only many but many in-between worlds. Each field is a different order or world that has its own mode of proprioception, relating with other irreducibly different fields by reciprocal transformation. At stake is the capacity of the relating fields to reciprocally transform, versus the instances when a field dominates and imposes its ratios. *Metakosmia* speaks about how fields may interrelate or not. What *metakosmia* allows, as a further conceptual twist, is to consider fields–metabodies as in-between worlds, counteracting the idea of there being a single homogeneous world — where again the crucial question is their plasticity or openness. This relates to the question of perceptual generosity raised in Book 2.

39 Resonating perhaps with Gianni Vattimo's *Pensiero debole* (1983), whereby weakening implies opening up and mobilizing fixity.

*All potential universes are already in this one,* if we open our movement up to indeterminacy, away from linear stories or causal paths. Sometimes these parallel coexisting perceptual worlds cross, overlap, open up, cocompose, and may sustain transformative relations even through their irreducible differences, as in my walks with my dog-friend and our broader love relation, which consists in a metabody, across our radical differences and in proprioceptive entanglement.

The neighborhood I see when walking around every day is not the same one that my neighbors or even a partner sees, not to speak of my dog-friend, who partakes in a whole intricate architecture of *body fluids as commons* — the dog–urine architecture that dogs collectively create in the city, smelling and adding onto it, almost imperceptible to me. Many places on which I don't focus end up being invisible to me, and my places of focus may be invisible to others, until something changes my attention — like learning to continue to live in the same neighborhood after a separation. Perception literally changes as you thread new affordances. The shop around the corner that you had never entered, which had ended up being invisible to you, and which suddenly, one day, because of a fluctuation in your proprioceptive field, you see and incorporate in your daily walks. Or that object in your house that you were no longer relating to and that had become imperceptible, until one day, cleaning, you rediscover it, reenliven it in your daily flocking, in the metabody of your house. Your expanded proprioception is like a flock, full of layers that might go asleep or fade away, and return later in a new manner, incorporated in your shifting metabody of experience. *Metakosmia* of experience fade in and out, creating memories, qualities and intensities that continually vary.

Sometimes, when a movement inside us or around us brings us outside of our alignments, we may open up, even if briefly, to other worlds. Such mo(ve)ments of opening need to be cultivated, as Allucquére Rosanne (Sandy) Stone proposes, by learning how to develop that moment in which

> the nuts and bolts that make up the way reality works suddenly become visible, and if you can grab hold, and use that interruption as an entry point to open up the seamless quality of everyday reality, then you have some idea about [...] not only how to change your perception, but also something about how your social structure works. You have to learn to develop that moment, the moment of rupture, to develop the sensitivity to those moments, to hold onto them and use them for yourself, as reality tools. (1993, n.p.)

When I talk to someone, what ecology is it that I'm talking to? What ecologies am I bringing into the conversation? What ecologies are we creating? How open are they? What alignments and reductive tendencies do they expose? Are we cocreating a *metakosmos,* an opening, an in-between world, a metabody, or assuming a universal *kosmos* of signifiers? Are we intra-acting and reciprocally transforming, or interacting, imposing gestures, or sustaining boundaries? Are we letting an emergent dynamics come up, or are we reproducing orientations and rhythms with which we were aligned?

#### *3.2.2.5.1 Grasping Our Entanglement with Larger Metabodies*

The observable universe is a metabody, and so is a bubbling field of quantum foam on the Planck length scale, very far below the scale of quarks. In between, one can find all sorts of orders of magnitude and, more importantly, qualitatively diverse

fields across orders of magnitude. Let us look now at the relations between two such orders of magnitude — the global and the local.

A local or nodal metabody — a love relation, or an activity we do, a project, a book, a house, an object, a "subject," or a body as traditionally conceived — always emerges or transmerges across many larger metabodies, creating a new quality, composition, and dynamics that can in turn propagate in the fields it relates to. Grasping something of this nodal dynamic is important in understanding degrees of freedom of movement as always relative — in a nondeterministic manner — to the many different fields we are part of. Alignments emerge, but fluctuation is everywhere. Every relation and node can become a source of new variations that differentially spread across fields.

The metabody is a concept that should help us avoid totalizations and understand the multiplicities inside the chimeras of globalism. *There are many earths in the Earth. Understanding that irreducible diversity is crucial for a nontotalizing politics to come.*

The task is not simple. Some metabodies are as invisible as they are monstruous and multifaceted. The chemosphere could be a name for the metabody of chemical flows modulating bodies, populations, and the planet, from global pollution to pharmaceutical treatments, hormones, pesticides, or chemical war. But it will also have endless expressions in particular flows of chemicals, whose movements one will need to understand as field or metabody dynamics.[40] If we consider something like global food production as a metabody, we can trace the invisible and massive fields of relations of which our daily habits are a part.[41] The love relation between two or more people constitutes a metabody in which the perspectival individuality of the two is partly suspended by a stronger ecology, a becoming-with. And yet that ecology is also traversed by all sorts of normative conventions, disseminated through perspectival media that frame love as a normative affective contagion in circles of affective capital.[42]

Hypersea (McMenamin and McMenamin 1994) is a powerful theory for thinking metabodies that speaks of life on land as an extension of the watery environments where organic life eventually started, so that the watery flows on Earth, from rivers to organisms, are part of Hypersea as a planetary-scale metabody of watery relations — of body fluids as commons — resonating with Thales of Miletus and ancient *chthonic,* or underworldly, cosmologies. Panmetalism, as the transversal presence of metals in matter proposed by Deleuze and Guattari (1987, 421), is another way of thinking relations across the biosphere but also in the sphere of "human" technics and computation.

There are as many viral metabodies as there are viruses, as many bacterial metabodies as there are bacterial colonies. Likewise, the algorithmic metabody is not

40 See, for instance, Chen (2012, 159, 189) for some interesting metabodyish engagements with metals and toxins.

41 Made of massive slavery and killing (slaughterhouses), pesticides, territory devastation, biopiracy, climate change, food addictions, massive consumption and marketing techniques, orientations of desire, perception of consumers, and the actual modulation of each eating body and its diverse eating environments, food epidemics, wildlife trading, and pandemics. See an expanded account of this in Book 5.

42 Some love relations are utterly foreclosed by alignments; others, less so. An ecology of affect would look into these varying degrees of openness pointing more to transformative intra-action or conservative interaction. So, a local metabody of a love relation is always entangled with planetary-scale economies that create certain conditions for love, but it probably also exceeds those economies to some extent, and there lies the politics.

a singular totality. We still need to understand the complexity of its platforms, infrastructures, and movements, which are both very centralized and very diffuse. In thinking the age of algorithms, or Algoricene, as a sort of Algorisphere, a planetary-scale field, one can analyze the different types of metabodies composing it; for instance, the perspectival metabody that aligns bodies with fixed points of vision. The more immaterial something pretends to be, the heavier, more immobile, and unsustainable the materiality sustaining it.

Cities, gestural communities, normativity, language, affective or sexual communities, philosophy, musical instruments, or compost piles[43]: rethinking these and many other categories as metabodies may afford less reductive ways of moving with the world. One can reconceptualize reality by considering its apparent locality as a field entangled with much smaller and much larger ones, and this entanglement as happening along endless qualitative variations and spatiotemporal spans that need to be accounted for, or at least not neglected, in counteracting closures and mobilizing openings.

The Covid-19 pandemic has exposed our entanglement with two highly different planetary-scale metabodies in conflict, recomposing in the process. On the one hand is the viral metabody. Viruses are part of the bacterial planetary fields that, following Lynn Margulis, are the dynamic matrix of evolution since nearly 4 billion years. They are a crucial means for horizontal genetic transfer across bacteria, and thus crucial to evolution as diversification. Viral and immune ecosystems building up over eons are an extraordinary self-regulating process of nature so that when a dominant species comes up, disrupting viral and immune ecologies, a pandemic will tend to attack that species — as is now happening to the *sapiens*.[44] Viruses tend to restabilize imbalances, because they are a sort of self-organizing technology of nature. Covid-19 has made evident our molecular entanglement with planetary-scale viral metabodies, exposing our molecular composition and intimacy.

On the other hand, the pandemic also exposes our entanglement with planetary-scale algorithmic–mechanical fields, which have allowed the virus to expand very quickly while strengthening the digital infrastructures, accelerating the preexisting tendency toward an algorithmic governmentality.

43 An affective community, a family, a sexual community, a dating app, porn industry, chemsex, every single orgy, these relations amongst many others can be reconceptualized as metabodies in understanding their modes of composition and degrees of plasticity.

Compost piles are interesting and hot metabodies, as is *humus,* another etymology for humans suggested by Haraway (2016, 160–61). Metabodying is also a way of staying with the trouble and making kin in the Algoricene.

Philosophy is a metabody resulting from sophisticated affordances and geometries of thinking, endless framings in books, tables, libraries, word processing software, academic disciplinarity, and the larger gridded affordances of texts aligned in perspectival windows which have sustained the fiction of a disembodied thinking for millennia.

Musical instruments are an interesting figuration of a metabody. In musical instruments, the body of the player and the instrument merge into a vibratory body, each being an extension of the other. Instruments are an accumulated memory of gestures that over centuries have crafted the consistency of the instrument as an affordance, not in terms of a defined function, but of timbrical consistency and rhythmic–dynamic plasticity. Again, it's never just the local metabody of the player and the instrument but a much larger and diffuse field of movements, techniques, and practices. The metabody or affordance of the instrument also expands in the particular modes of musical writing and composition for that instrument, the traditions of interpretation, the schools of playing, the modes of teaching, and the disciplinary framing of conservatories foregrounding repetitive learning.

44 As proposed by David Quammen (2018) and other virologists. See also IPBES (2020).

The viral metabody is one of ongoing and slow diversification without program, in which ecosystems and biodiversity unfold. The algorithmic metabody is one of reduction and acceleration tending to total control, ensuing in planetary-scale ecosystem disruption, climate change, and pandemics.

So called viral media are part of the algorithmic metabody and of what I call the panchoreographic, which is to say, a homogeneous propagation of affects and gestures aligning bodies with perspectival interfaces. Viral media foster a homogeneous propagation, at odds with the force of mutation propelled by viruses in evolution. Perhaps we need to recover that force of mutation of viruses, of which our proprioception is a direct inheritance, and thus counteract the homogeneous propagation of viral media and of "Facebook pandemics."

In the words of Dorion Sagan (1992), we are meta-metazoa. On the one hand, we are offspring of a symbiogenetic evolution where microorganisms inhabit each other in increasingly complex ways, a chimeric hybrid of bacteria and viruses evolving into cells of multicellular organisms while still largely made of bacterial and viral assemblages. On the other hand, we have a planetary impact and are responsible for that impact, as we create a sort of planetary technological hyperorganism of which we so-called humans, hegemonic or not, are part: a *hypercyborg*.[45]

Covid-19 exposes, perhaps more than any other recent event, our viral heritage, intimacy, and evolution, our systemic dependencies, superalignments, and planetary scale responsibilities, and their conflict. Viral–bacterial metabodies and algorithmic metabodies are at war, and the human appears to be a provisional evolutionary node between both. The pandemic has enacted a new economy of movement, itself a planetary metabody, of social distancing, precarity, intensified control, and much more — with multifaceted and unforeseeable consequences. It's a situation whose complex unfolding is still to be accounted for, a radical transmergence.

> *A subject who speaks at the border of the speakable takes the risk of redrawing the distinction between what is and is not speakable, the risk of being cast out into the unspeakable.*
>
> — Judith Butler (1997, 139)

#### *3.2.2.6 Common Body — Frontier Bodies — Economy of Variation*

Metabodies are common bodies.[46]

Bodies are proprioceptively entangled with one another. Proprioception and movement are a primordial mode of knowledge and economy.

Proprioception affords a new and ancient economy of commons relative to body–self–perception–movement.

The body, perception, and movement are a fundamental mode of the *(an)archē*-commons in which our onto-epistemologies are woven and may be opened up — metacommons or precommons, where, by transforming movement relations, one may not only change what we may consider as commons, or how we perceive them, but also instantiate modes of relations in which things are not fully external

45 Margulis and Sagan (1997, 226) and Stock (1993) have depicted less critical views of this process of aggregation in a planetary superorganism, comparing it to how unicellular organisms became aggregated in pluricellular organisms.

46 *Common body* is a concept I started to elaborate around 2008 in the framework of the Laboratory of Commons in Medialab Prado, Madrid. See Del Val (2009a) and a genealogy of the concept in Del Val (2021b).

to us nor fully appropriable, opening up the very perceptual framing that makes portions of the world appropriable by enacting a separation.

The common body resonates with the undercommons (Moten and Harney 2013), as insurgent life generating fragile comings together.

Proprioception sustains an entire economy of embodied knowledge that our rationalist culture underestimates, *an economy of variation.*

Common bodies are frontier bodies, as they speak or gesture in the frontier of the speakable. At stake is not only a redefinition of the boundary outlining the speakable, but also highlighting the value of all that exceeds the speakable and that must not become speakable. Neither clearly legible nor fully illegible.[47]

The common body speaks of the need to open up speech itself to that more indeterminate field of bodies proprioceptively vibrating across each other. It speaks of how speech itself is always already an irreducibly proprioceptive resonance. It speaks of a politics of bodies that exceeds the narrow frame of representationalism, a politics that acts upon representationalism without claiming to be included in its boundaries and opens them up. Frontier bodies blur ontological boundaries with their vibrant and precarious resonances.

### 3.2.3 Variation — Intraduction

*Intraduction* or *metaduction* is the actual process of variation of fields, which entails the inseparability of composition and mutation. Every mutation is a composition, every composition is a new mutation, that is, symmutation. Throughout the book, I use the terms interchangeably, mostly intraduction and metaduction, while enferance is a more overarching trope, honoring variation and orgiastic uses of language.

Intra-/metaduction is the singularity, the node, the center of the vortex, the process where a new quality gets cooked that will become a metabody, a field's memory, affect, quality, and resonance, affording new depth, sensitivity, consistency, and therefore a deeper openness, new capacities to take in affections from the world and make them into new compositions–mutations–variations–singularities.

At the start of this section, we outlined its process, summarized in the Quadruple Law of Fluctuation and in the swarming kineontology of fields. It implies *technē*s of variation that allow taking in impressions, affections, and shocks, processing them and giving out the new resonance.

Intra-/metaduction exposes how plurality emerges within an indivisible movement. It is about bringing back the indivisible *1* as indeterminate, swarming multiplicity, *(1) = (n).* But it also accounts for the discontinuities, alignments, and unexpected events that arise. What needs to be taken out is the dualist split, *(n) – 2.*

Intra-/metaduction is the movement of *différance* or enferance as multiple (un)folding of fluctuations, as spacing and difference-within; a science–ethics of variation instead of control; divernetics or divernethics rather that cybernetics (or, as Simondon suggests, an allagmatics.)

Intra-/metaduction or enferance is the open or indeterminate process of emergence, relational composition, and variation of fields, where every relation is a creation–composition–fielding and a mutation. Or the process of sustain-

47 On the production of the illegible body and its relation to Gloria Anzaldúa's concept of *mestiza* as "existing quantum-like in multiple states," see Stone (1999, 93). On near legibility, see Stone (1993) and her Near Legibility project in the ActLab, https://sandystone.com/work/shroud.html.

ing the open–indeterminate–irreducible emergence–*poiēsis*–unfolding of fields, as symbiotic–relational–mutual–coemergent–entangled mutation–variation (*symmetakinepoiēsis* or *symkinemetapoiēsis*).

Intra-/metaduction is also metamergence as relational, indeterminable process of emergence and unfolding in variation, without ever congealing into stasis or form.

Intra-/metaduction happens across infinitesimal thresholds as new zones of energy density appear (ideas and societies, cellular morphogenesis and life forms, galactic and planetary aggregates) — as always already entangled in an indeterminable, constantly shifting *n*-dimensional web. The new zone–bubble metaducts its own field as it unfolds, without recourse to preexisting rules, webbing itself, relationally cosensing as it spaces and expands, composing-with, transforming all along. Maybe it emerged or was sparked by a particular transmergence of other fields (ideas, life molecules, tornados), or maybe it condensed, metamerging spontaneously due to fluctuations.

Intra-/metaduction as process of variation and becoming exposes a universe's field as evolutions or *n*-volutions in multiple *n*-foldings. These evolutions account for the open consistency of bodies in the slow self-organizing dances of atoms and molecules bringing up diversity over eons, exposing the dangerous chimera of attempting to reduce this process to a set of replicable, computable rules.

Intra-/metaduction exposes the coming together of fields as well as the self-organizing process of unfolding a field, the emergence of its peculiar rhythmic modalities, and its evolutions and transformations, or its fixation, propagation, and domination.

Book 4 exposes the evolution of this universe and this planet as a process of intra-/metaduction in the open transmergence of fields and their modes in a multiple *n*-folding propelled by fluctuations.

Book 5 exposes the anomaly of the Algoricene and Anthropocene as a sort of counterintraduction, a will-to-reduction or domination, a reductive field forming which also operates in the complex transmergence of kinetic modes, but in this case tending to their reductive expression, the alignment.

#### *3.2.3.1 Enferance/*N*-ferance/*Enphereia *and Other Neologistical Experiments in Search for an Impossible Concept*

In trying to create an overarching metaconcept–movement for RMP that includes the resonances of the whole triad of concepts exposed thus far — *clinaos*–metabodies–intraduction — I will push further the concept of intraduction or metaduction as central ones.[48]

In the process, I build upon resonances from multiple preexisting concepts such as *clinamen, différance,* resonance, *plateaux,* transduction, intra-action, *sympoiēsis,* emergence, transmergence, allagmatics, *gignesthai, energeia, metabolē,* entropy, becoming, or *conatus*.

In some ways, one could say that I add aspects of my field approach, and of sustainability, relationality, resonance, and plasticity, to Derrida's metaconcept of *différance,* which itself already implies the internal differential of the *clinamen* as a trans-

48 This attempt comes toward the end of this book, as a kind of after-reflection and further impetus, condensing already into future variations, so it remains a future project to web these neologisms, or not, with the larger fields of theory and practice proposed, putting the concepts to work. Take this exercise and open laboratory as aspeculative archaeology for a modal society to come.

ductive differential fielding. *Différance* and the *clinamen* are two highly promising precursors in creating a metaconcept–movement that describes the open relational fielding process of the world's unfolding-in-variation. Hartmut Rosa's concept of resonance is also very appealing in that it implies an open, indeterminate, irreducible, differential, and relational fielding. Enferance also has the *endo-* prefix, like in entropy, from Greek *entropē,* which means "turn or transformation within," or as in enfolding.

It is a complex conceptual experiment, as I try to push thought beyond the boundaries of all the conceptual apparatuses inherited from the ontological era. Here follow several tentative proposals:

*Enfer/make enferance*[49] is to cultivate, develop, or unfold indeterminate variation, internal and relational, sustained, resistant to imposed movements and reductions, disaligning from dominant reductions.

Enferance/*n*-ferance/(e)n-ferance/*enphereia,* or un-/in-/enfolding/*n*-folding or *metaergeia* or intra-/metaduction or metamergence, *metapoiēsis, metagenesis, metagignesthai,* or metaformativity, or metakinetics, (meta)ontokinethics, or divernetics exposes fields-as-processes of variation, incorporating aspects from my concepts of *clinaos* (openness) and *metabody* (consistency).

Enferance/*n*-ferance accounts for the multiple, resonant, consistent open becomings of worlds, propelled by the internal difference of fluctuations, unfolding in modes, including alignments as reductive modes within those becomings.

Enferance theory proposes a plastic realism in which bodies–worlds are emergent, entangled, formless, fluctuating fields in never-ending variation, irreducible to form. Enferance theory also allows for the diagnosis of anomalous but dominant regimes of movement that reduce indeterminacy and thus accounts for the historical emergence of form as reductive anomaly that interrupts symbiotic evolution on Earth through the reduction of variation in movement that creates both an atrophied body and a superaccelerated, homogeneous mobility, resulting in a trash-covered planet and causing a mass extinction. Form is not a feature of nature but a cognitive bias of reductive humanism. Enferance pragmatics proposes ways of overcoming the excesses and errors of a rationalist epoch of reduction by regaining and taking further the plasticity in movement as capacity for minimal ongoing variation.

In my proposal, enferance or *n*-ferance substitutes entropy as metacosmic or chaosmic law of fluctuation-in-variation, also accounting for *autopoiēsis* as the open metapoietic consistency of organic and inorganic living systems. It also substitutes and reverses cybernetics as science of communication and control, turning it into a science of the need to sustain indeterminacy in our intra-active, transformative relations. Enferance also equates life as synonymous with movement, encompassing the inorganic, every process that fields forth, immanently but relationally. We will call it enlife/*n*-life.

Enferance also substitutes virtue, beauty, happiness, evolution, value, or any other previous *telos* assigned to life, making enferance, the joys and pathos of variation that don't impose themselves, instead into the new counter-*telos*.

49 At first glance, enferance seems to bring together the sense of: internal (*en-*), difference, *différance* (deferral and spacing), and resonance. At a deeper glance *-ferance* stems from the Greek *pherein* ("to carry") and from *phora* ("motion, displacement, carrying, being borne"), thus as a variation of inferring, but no longer as bringing in, rather as carrying and sustaining difference within and beyond, differentially resonating. Its variation in *enphereia* seeks more direct recourse to this Greek sense.

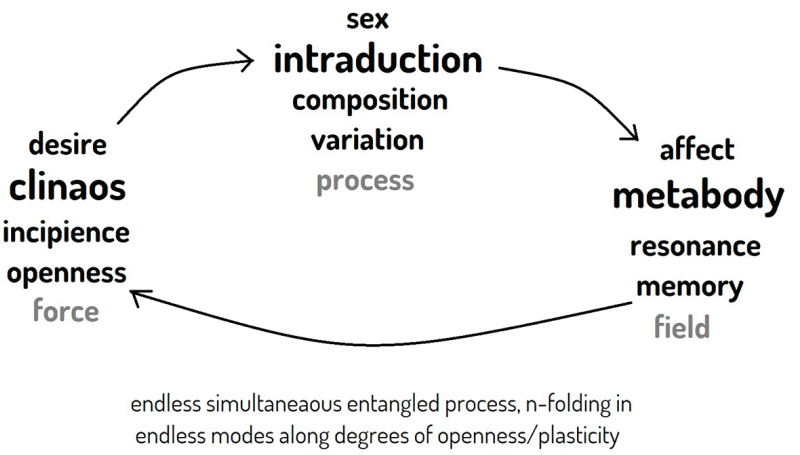



*Fig. 26.* Enferance diagram where *clinaos,* intraduction, and metabody are simultaneous, multiple, entangled, ongoing processes of enferance as the becoming of fields/worlds. Enferance or metaformativity is provisionally proposed as overarching trope for the proposal of RMP.

Enferance or *n*-ferance (fig. 26) is defined as a triple simultaneous movement of
— *clinaos* — internal difference, will to power of variation, minimal ongoing variation, sustained relational incipience, tending toward
— intraduction — emergent relational spacing, ongoing differential field forming, sustained differential *n*-folding, self-organizing entangled webbing, differing–deferring–spacing–field forming, *indeterminate differential relational* n*-folding,* while condensing in a
— metabody — consistent relational openness, open relational composition, open differential resonance, differential consistency that persists, persisting to be open while consisting, irreducible differential enfolding.

Enferance is qualitative transformation of energy toward increasing diversity. Entropy (usually considered passive dissipation and tendency to disorder) is the effect of quantitative reductive alignments that do not recompose with the world (stopping qualitative transformation), creating a quantitative surplus of energy that does not enter creative qualitative transformation, producing pollution instead.

Enferance is about the small inevitable variations creating big, long-term changes, unfolding as increasing complexity of variations within variations and across variations. Enferance is thus the tendency to complexity as diversification.

Enferance[50] is modal, that is, a process of field forming in modes and degrees of plasticity and indeterminate fluctuations fielding forth as a multiple rhythmic

50 Possible language uses and translations:
— enferance, an enferance, make enferance with, what is its enferance, enferance cycles, enferance law, science of enferance, ethics-ecology of enferance, politics-aesthetics of enferance;
— to enfer, enferring (verb);
— enferant (adj.), enferential process/becoming, enferant *technics,* enferant *revolution*;
— an enferant, the enferants (person, body, social movement);
— let's go enferant, enferental, enferential (let's go clinamental);
— the kinetic mode (metabody) and degree of plasticity-openness (*clinaos,* as resistance to reduction or closure, as will to power of variation) of an enferance;
— *una enferancia, une enferance, una enferanza, eine Enferanz.*

entangled modes in variation, expanding, condensing, oscillating, propagating, webbing, interlacing, remixing, recomposing, swarming.

Enferance is *(e)n-folding*/n-*folding*, multiple simultaneous ongoing and entangled un-/in-/enfoldings:
— unfolding–differing–deferring–spacing;
— infolding–condensing;
— enfolding–consisting–composing–field forming.

Enferance is *endo-differ-resonance*:
— internal, differential, resonant–relational enfolding;
— internal differential consistency that spaces in sustained manner and differential relational ongoing immanent spacing;
— multiple ongoing differentials becoming–consisting–resonating of movement fields;
— indeterminate multiplicity (fluctuations) internally and relationally differing, unfolding, condensing, varying, resonating, attuning itself with others;
— implicit, immanent, internal difference;
— indeterminacy and indeterminate difference;
— persistence in open relational variation and resistance to closure;
— mode of composition and openness in variation;
— intrinsic disalignment and internal diagnosis of alignments and resistance to alignments and persistence in variation (metaconatus);
— ontology, epistemology, politics, ethics, aesthetics, ecology, *technē*, and economy of ongoing variation;
— indeterminate multiplicity differing with itself internally and relationally,
— internal difference as field forming, that is, differing and deferral of a movement from itself, fluctuation;
— resonance, relationality, intertwining, or entanglement;
— consistent open incipiency;
— enactive entanglement;
— *energeia* and entropy as internal, immanent transformation, always at work;
— immanent transformation unfolding.

Enferance as *metergeia* or *met(en)ergeia* (as inversion of Aristotle's *energeia* and *entelecheia*) persists to be open in consistency and in variation without *telos*, both internal and relational.

Enferance is somewhat equivalent to *metaformativity* as the overarching theory of the open emergence of fields–processes in relational ongoing variation, spacing as they create their own conditions. It is a study of the modes and degrees of plasticity of movement fields, thus also of their alignments, and the emergence of alignments.[51]

#### *3.2.3.1.1 Enferant Dynamics: Recapitulation*

The world is made of metabodies in variation (intraduction) and propelled by a will to variation (*clinaos*).

51 *Metaformativity* is perhaps my oldest concept, along with *metabody*, since 2002, as my take on and beyond queer performativity, *enferance* instead is the newest.

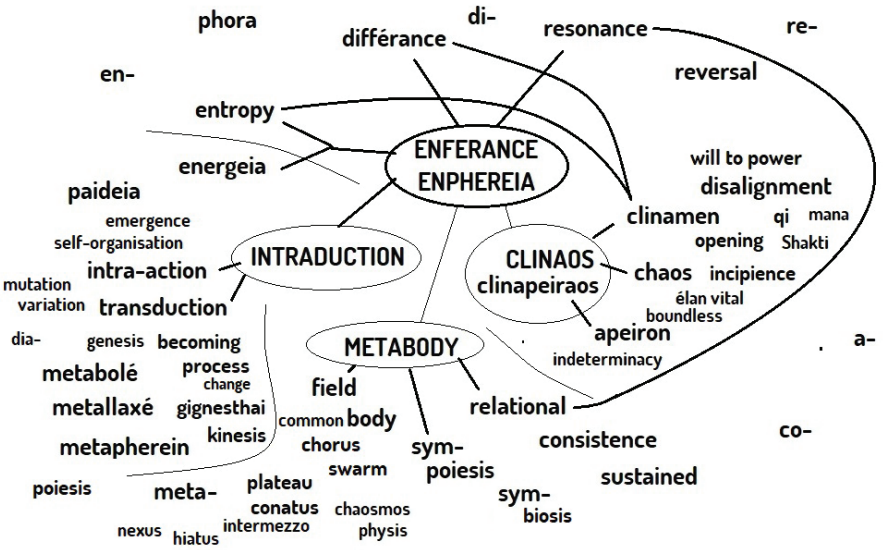



*Fig. 27.* Enferance conceptual field diagram.

*Clinaos* is the propulsive force that is both openness for taking in, incipiency toward an emergent field and the new propulsion ensuing a field's intraduction, propelling the whole toward new intraductions. *Clinaos* is both openness for taking in and outward impulse, propulsion. *Clinaos* as principle of variation is not just vitalist. It implies death as part of cycles of variation and suffering as the pathos of opening oneself up to what happens, what affects you as a body, what you compose yourself with, what may decompose you if it dies or goes away. At stake is the cultivation of a rich multifaceted field that allows us to be enriched by this process rather than killed by it.

Enferant fields compose through spacing, internal difference, and transmergence with others, taking in, transforming, and giving out. Enferance comes along in the interplay of emergence (condensation–spacing) internal difference and transmergence. Intraduction takes in not just from the previous variation of one field, but is in transmergence with others, in a double endo- and transdynamics.

Transmergence implies, as I previously stated, that we cannot ever know how many fields or tendencies are converging in an intraduction, we also can neither know all the variations condensing in an intraduction, nor how these will propel themselves further into unknown new diversifications and fielding (enferance) processes.

There is a triple indeterminacy of unknowable convergences, unknowable recompositions, and unknowable mutations coming out and propelling the field further. This applies also to the emergence of a universe as propelled by clinaotic force that spaces in the process of creating internal differences, these differences continue spacing outward, differing inward while transmerging between each other. The birth of the universe's enfolding is perhaps also coming in the propulsive echo of other multiversal enfoldings, as proposed by eternal inflation theory, always propelled by quantum foam.

Every intraduction deepens the enfolding of a body's field (cosmos, organism, and so forth) with richer memories and capacities to vary.

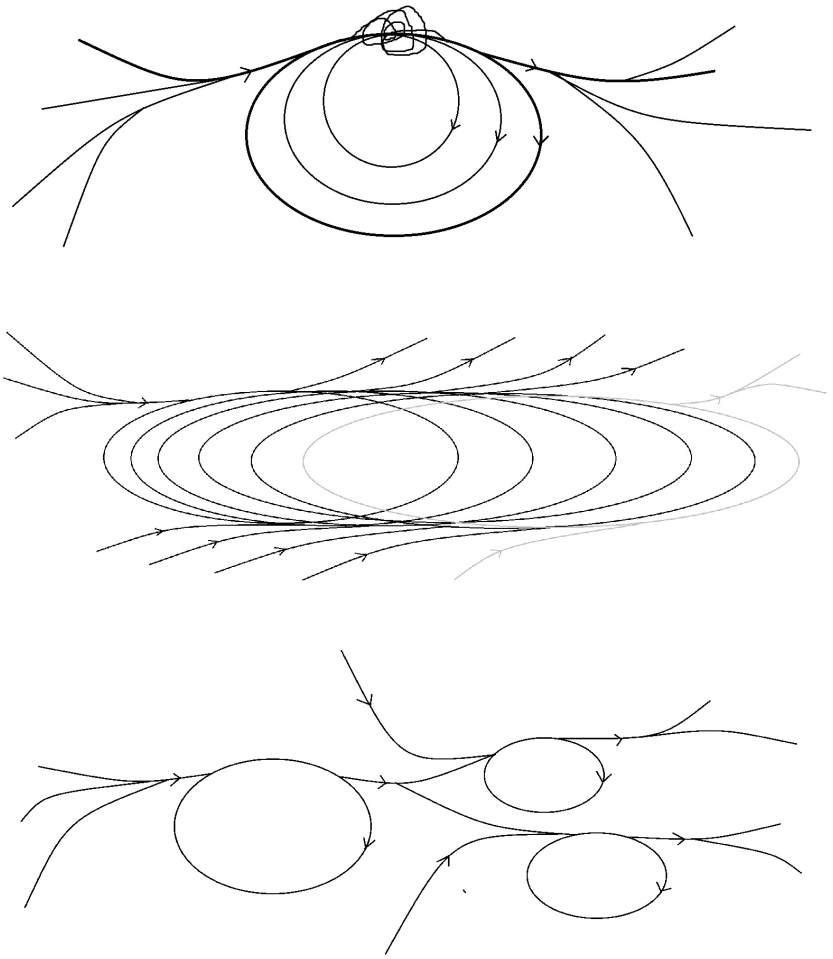


*Fig. 28.* Enferance diagrams of *clinaos*–intraduction–metabody cycles/fields.

Enlife or enferance is a dynamics of unfolding (opening up to take in) and infolding (to recompose with the new), in which the enfolding of a body–field (individual, society, universe, or other) comes up, with increasingly richer resonances and memories, which are the field's capacity to further open up and recompose. This happens always in multiple simultaneous, entangled processes.

When fields close down, stopping their intraductive process of recomposition, impoverishing their memory and field, the entire cycle can enter an exponential vortex of narrowing, as is the case in the Algoricene.

Enferance is *difference* or *variation without repetition* or being, it is the movement of fluctuating fields. If any partial repetition comes about, it is as means to further vary. When repetition takes over, transvaluation to fixity happens and evolution paralyses. The only sense of such inflections is to be overcome with unprecedented variations, which are necessary to overcome the inflection. Like in mass extinctions,

destructive inflections may become evolutionary bifurcations, but they can also lead to the annihilation of the very possibility of future life, as maybe what happened on Venus.

The multiple cycles of expansion–condensation, of unfolding and infolding, of *clinaos* and intraduction, constitute the enfoldings of fields as metabodies, as the increasingly rich sustained resonance or memory (fig. 28).

...

*Clinaos* as will to variation and diversification is the core *meta-metaphysical* drive — meta-metaphysical because it exceeds metaphysics and because it is a true relational physics of transformation and emergence. Secondly comes intraduction as the process of becoming propelled by *clinaos*. Thirdly come metabodies as the fields emerging in the process of becoming.

#### *3.2.3.2 Intraduction and Eventfulness*

Intraduction accounts for the un-/in-/enfolding of fluctuation as evolutionary processes and for ecologies as processes.

Intraduction also accounts for events within processes as sudden condensations within a process but also as unexpected encounters, shocks, disruptions that continually happen in the transmergent encounters of fields, as well as in the intra-active, metafractal fluctuations within. Intraduction is how we can account for unexpected events, shocks, and encounters happening all the time in between discontinuous processes that can recompose in the encounter, or where one field may impose its movements onto others.

Every event is embedded in ecologies, all ecologies imply unexpected events, and all unfold in the intraduction process that is enferance and becoming. Many events can create new ecologies, like a war or pandemic, but they are always linked to multiple previous fields, such as viral, technical, economic, and so forth.

This is of crucial importance for understanding the kind of open consistency that a field needs to cultivate if it is to take in creatively any incoming shocks without dissolving upon their impingement.

Events are unexpected transmergences between fields in nonlinear evolutions. But transmergence is never between series enacting redeterminations. Instead, it implies ontologically indeterminate fields, each of them sustaining multiple states. The problem comes precisely with their reduction. Systemic violence comes when determination appears by narrowing that indeterminacy.

A politics of cultivating the shock, of resisting imposed alignments, of taking in incoming movements in creative ways while recomposing involves three aspects: resisting reduction by sustaining richness, increasing or sustaining sensitivity and thus plasticity, and developing movement *technēs* — practices for "enduring the intensity" of variation.

#### *3.2.3.3 Technēs for Cultivating the Shock: Microsingularities and Microrecherche — Openness as Dionysian Affirmation*

Our sensitivities are constantly impinged upon by shocks, impressions, and affections. These can mobilize creative forces in us or impose on us reductions and dominant alignments. Promoting the former and resisting the latter requires *technēs* that

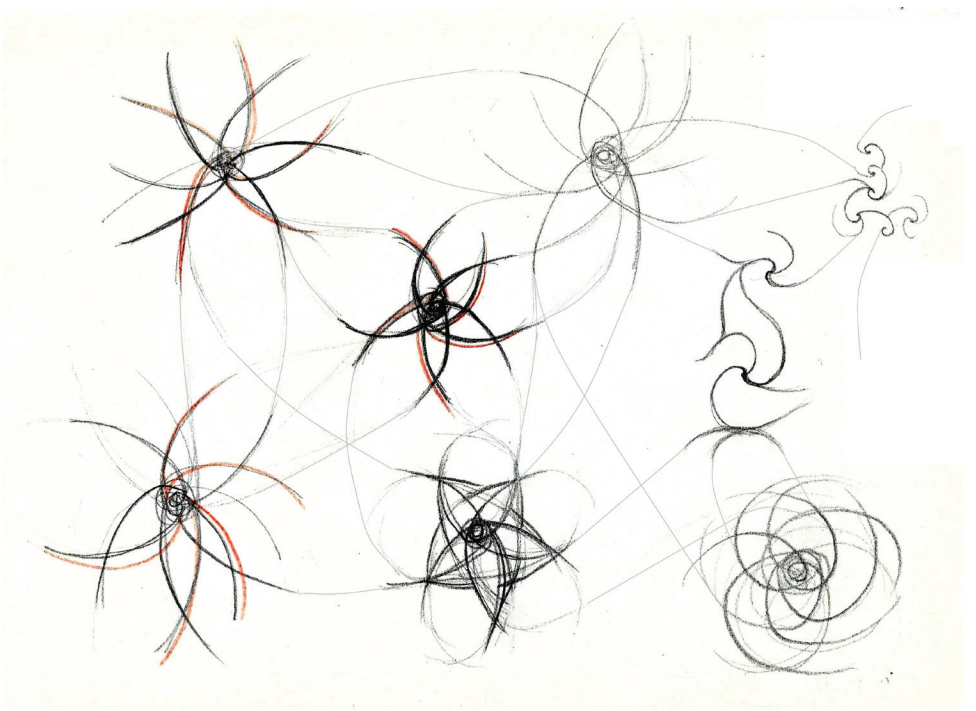


*Fig. 29.* Enferance vortex diagram of multiple simultaneaous and entangled *clinaos*-intraduction-metabody cycles/fields.

can cultivate the capacity not only to be affected, but to bring that affection into a creative process rather than submitting to its narrowing power.

For instance, if I get a shock by encountering a painting or a landscape or a musical composition or a poem or a person that impinges upon my sensitivity (unleashing an opening or *clinaos,* a new intraduction toward a new metabody, a new affect), I elaborate it in a sustained manner by incorporating the shock through improvisational-compositional processes (becomings), distilling from them a new metabody (essence, affect, quality, memory, rhythm, condensation, thought, intelligence, and *technē*, thus a sustainability for further evolutions) that will enrich my broader field and allow me to further take in other shocks and impingements and incorporate them into my larger process. This will, in turn, allow me to sustain an open sensitivity, eager to take in new impingements and elaborating them in a sort of microsingularity, a vortex that takes in and out, creating in its middle something new (fig. 29).

Intraduction is the "singularity" process of a metabody — its compositional process — as it enfolds new consistencies and qualities, which eventually leave a new resonance or memory. Sustained practices of improvisation-as-composition in turn will allow us to maximize sensitivity and capacity to take in further shocks and recompose with them.

This implies a microrecherche in the more-than-Proustian sense of an ongoing process of distilling from experience new metabodies, in continual proprioceptive reattunement with the world. An ongoing search for lost proprioception or an ongoing regaining and enriching of proprioception, in which creative reinvention of memory is part of an ongoing recomposition with the world.

This distilled affect quality is the rhythmic field of memory. The richness of memory is the plasticity in movement, the capacity to unfold new movement variations. A memory made of aligned proprioceptions enforces an aligned body with narrow potential, a reduced power of variation.

This is what happens in a culture of massive consumption of standardized products. Sensitivity and resistance diminish reciprocally. A gesture of systemic violence or a homogenized perception of a signifier impact me violently, and this impact is destructive if I have no means of elaborating it into an intraduction by unleashing new becomings and metabodies that are also a means for sustaining openness and sensitivity. When openness is reduced, affections become destructive, often entering a black hole spiraling into exponential narrowing creating, as in the Algoricene, ecologies of systemic violence, a violence which becomes invisible due to the loss of sensibility that also annihilates resistance.

When I hear a great pianist, even if I don't see them playing, my proprioception is impacted. It's a particular proprioceptive dynamism, plasticity, and intelligence. I have the urge to go and play, and to transduce what I heard into my proprioception, reinventing it. When I see a painting that impacts me, it's again a proprioceptive shock. I have the immediate proprioceptive urge to paint and elaborate that transduction, a "psycho-physiological" dynamism that demands immediate expansion. I embody the intelligence of the movements composing the painting as field, and these transduct across me into new movements that need to be elaborated into a new metabody. Likewise, if I read a philosopher that positively shocks me, I have the urge to go and intraduct that impression, as my field of movements–memories recomposes into new words–ideas, always on the move, always transducting and fielding further, unfolding into a new becoming.

These are the shocks that set creativity in motion, inevitably, like an unstoppable force. But it's the intelligence of the painting or music or text or dance that shocks me, something of its dynamics which I take on and further. When you look at a painting, you enter a field of intensities in the making and also embody the proprioceptive intelligence, the very movements of the painting that keep transducting across you. What makes an artwork great is how far it sustains a rich, inexhaustible field of internal tensions with which one can entertain an endless transductive relation, always finding new movements across the multiplicity of its tensional zones. It's an expanded proprioceptive field that affords endless transductions across bodies.

One needs to develop life *technē*s for sustaining sensitivity as well as the focus to elaborate the singularities, tornadoes, or vortical processes that create their own spacetime, where they can take in shocks, transforming them into a new composition. It's a question of letting the process run through you, letting fluctuations unfold. Then, no energy dissipates, and the process energizes you. You will feel light-footed as they let the field move. Dissipation (entropy) comes when alignments get imposed with their heaviness. Keeping these intensive fields alive requires a whole art of life, an energetics of fluctuation.

When I don't play or write for months, the field of consistency I have elaborated in these practices fades out, and it takes time to recover it. If I keep a certain minimal practice, it stays alive — maybe with a slow, linear development. But if I focus deeply again, it enters into an exponential process, a singularity. Singularities need to be cultivated. That is where technique comes up as a new intelligence and thought, a new dynamics that heightens the plasticity of life. Now, what leads to them may be a moment, a shock, an impression that awakens something for the first time, that stirs

an opening within daily gridded alignments. One has to listen carefully and follow these cues. Or again, after a period of sleep, a sensitivity may reawaken, and with it the urge to develop that impingement, an urge for creative transduction. That is also how an artist's vocation awakens. Such moments may return endless times, always unexpected, and you may recall them, cultivate the force of opening, but not reproduce them. They just happen.[52]

One needs to let the process unfold. It will never follow a preestablished plan. The singularity in which a new field comes up in the process may span days, weeks, months, or even years. Say I am working on the drafts for a book, but the process isn't yet consistent. I am drawing on elements scattered in readings, piles of books, PDFs, notes, and they are alive in the present span of my proprioceptive memory. During this period, the drafts are my extended field of focus, my multilayered present, my field of movement, perception, space — and I need to elaborate them until they are consistent. They will coexist with many other metabodies (relationships, houses or neighborhoods, trips, other creative processes, etc.) and become entangled with them to some extent. But if something distracts me for days or weeks, I will have difficulty to recompose the metabody of connections that were then in the works, that were still weaving and composing a new resonance. The inconsistent field is irrecuperable once I have put away the books, PDFs, notes, the expanded proprioceptive field of thought in whose configurations new dynamics had been webbing. I then need to recreate a new metabody, recomposing a process that will never be the same. There will never be the same thought twice. They are fluctuating proprioceptive configurations in variation.

As a process acquires consistency, it does not become fixed, and it never "actualizes" in concreteness. Its actuality is its openness. There are thresholds, but over the eleven years of writing this book, I can't say that it ever achieved a stable state. At the same time as it was consisting in a new threshold or field, it was already moving beyond it — hence the impossibility of really closing a book. *Incipience, composition,* and *memory* fade in and out across infinitesimal thresholds in multiple simultaneous processes of living. The consistent field is still and forever nascent, incipient — but consistent. It can achieve thickness of resonances, composing a field with which others can connect in unexpected ways, inexhaustibly. This applies to any activity, as any activity gets integrated in the swarming field of our proprioceptive memory.

The intraductive circuit, then, is something like this but without a logical hierarchy or starting point. Your sensitivity is impinged upon by shocks, where you elaborate it as an artistic or life vocation and practice and develop your techniques. They may fade, but another shock will bring them back if you allow it. Then you see everything with a new perception, a "painter's eye" or "composer's ear" that transforms all the time, developing new perceptions. You focus on new things and elaborate the perception further. You develop an endless appetite for light or rhythm, and every movement in the body becomes part of the singularity. You also have nascent visions, imagination, ideas, which are proprioceptive already, and which get elaborated in

52 Pierre Boulez elaborated on this dynamic between shocks or impressions and their long-term elaboration in a talk entitled "L'instant et l'étendue," which I heard when I attended as composition student the Summer Academy at IRCAM in 1996. The particular example of a "shock" he expanded on was when he attended a lesson by Olivier Messiaen on Maurice Ravel's *Ma mère l'oie,* which means shocks can come from apparently small things that don't look revolutionary at first glance. It's maybe just a small twist in how an idea is presented that opens up a radical variation that you can elaborate if you pay attention to it.

continuous transformation acquiring open consistency, developing affective resonances and memories, essences that feed into new processes. But there were already many essences–memories crafted from earlier times, from childhood or before. So the creative process is partly a search and rediscovery of those essences–qualities, in a Proustian sense, and also their ongoing, never-ending reinvention.

Creating conditions for shocks and their elaboration implies

— techniques for awakening sensitivities and opening up to impressions, that is, being able to disalign from reductive perceptions and cultivate the disalignment;
— techniques for elaborating the shock, creating a deep but open focus and process, a microsingularity; and
— techniques for sustaining resonances, for keeping alive and taking further the distilled new rhythms of life that an intraduction has brought about, always in new variations.

This threefold dynamics and process in fields involves a threefold movement of *incipience, composition,* and *resonance* or *memory*. These processes are lifecycles (from stars, through organisms, to molecules or atoms) that end when the possibilities to mutate-in-composition are exhausted.

This is partly akin, with some differences, to Simondon's preindividual, individuation, and transindividuation, respectively:

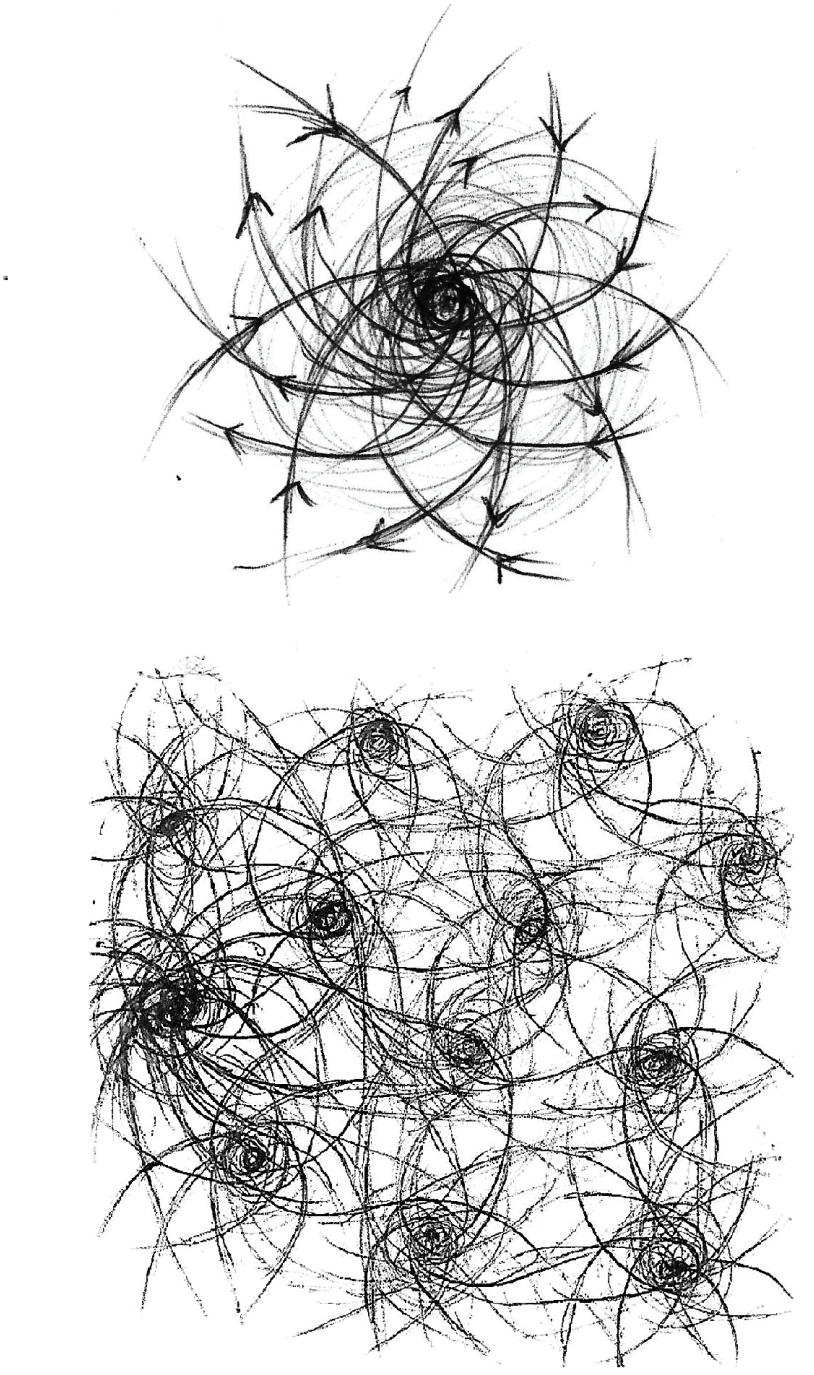
— *Clinaos* (desire)–incipience–emergence–opening–sensitivity–vitality–unfolding–tending–opening–sensitivity (close to Simondon's preindividual);
— Intraduction (sex)–composition–condensation–singularity–plasticity–infolding–consisting of (close to Simondon's individuation and transduction);
— Metabody (affect)–resonance–memory–quality–enfolding–sustaining (close to Simondon's transindividuation). (figs. 30, 31)

Fields as spatiotemporal processes are blurry, both in spatial and temporal terms. One cannot draw a neat line to define where and when a field acquires consistency, and they never lose their openness as they proceed through incipience, composition, and resonance — always nascent and open to variation.

Our present is a fabric, a murmuring micropolyphony, of "past" intensities recomposing. Sometimes they leave hard crystallizations, alignments, or traumas. Healing trauma is about opening up hard crystallizations to a greater richness of resonance and plasticity.

The consistency-in-variation of the field that we are accounts for its openness, its capacity to continually open up to new transformative encounters with the world. In Tom Sparrow's words, *a Dionysian affirmation of all that appears,*[53] including the suffering or *pathos* implicit in these affections. The problem is not suffering as such but when the suffering is not part of a self-creation, when it is merely destroying and decomposing us. For *pathos* to be a creation we need improvisation *technē*s that allow us to sustain a movement of variation in which to process our multiple affections

53 In his account of plastic bodies, Tom Sparrow proposes a principle of *exposure,* a Dionysian affirmation of all that appears and that "may or may not disrupt our tendencies toward fixity and intolerance," an exposure to deformation where we "welcome the possibility of reconfiguration, perhaps beyond recognition," which gets associated with Foucault's "critical ontology of ourselves" implying both the "analysis of the limits that are imposed on us and an experiment with the possibility of going beyond them" (Sparrow 2014, 232–35: quoting Foucault 1984, 50).



*Figs. 30 and 31.* Vortex diagrams of enferance. The vortex diagram of enferance exposes the threefold process of *clinaos*-intraduction-metabodies: multiple simultaneous processes of taking in, transforming, and giving out, where the giving out is a memory that gives consistency to the field, but is also what accounts for openness, as capacity to further take in, into new intraductions. Taking in is thus related to a sensitivity as capacity to vary (desire), that unleashes new mutations–compositions (sex), resulting in a new metabody (affect-memory-sustainability). The more rigid the memories, the less open the desires; the more plastic the memories, the more open the field. We always compose amidst an enormous multiplicity of such processes with hugely diverse temporalities and spans.

with the world. This process is neither merely taking in movements nor imposing ours, but an ongoing recomposition with the world, in unprecedented variations.

> *Those epochs that, due to discord with themselves, move toward their dissolution, tend to be attracted by the inexpressive beat and its implacable antivital hammering.*
> — Maria Luisa Caturla (2021, 69)

## 3.3 Rhythm (Affect), Orientation (Desire), and Contact (Sex)

### 3.3.1 Rhythm, Microaffective Ontology

#### *3.3.1.1 Rhythmic Plasticity*

Following its ancient etymology from *rhein* ("to flow"), rhythm is fluctuation, a dynamics of fluctuation,[54] a flow of differentials holding together. But we can better understand rhythm through the trope of the field, because rhythm is the dynamics of energy density differentials holding together as field and in variation. Rhythm is always already a field of multiple differentials, which are also its sensitivity and openness (rhythmic plasticity), its affect and quality (rhythmic mode), and its memory and *technē* (rhythmic depth of resonance).

It is Plato who introduced in *The Laws* the definition of rhythm as order and meter in movement that has prevailed ever since. For Plato, this definition was crucial, as the orderly circular motion expressing the intelligent soul of the world was arguably the way in which eternal forms partially informed the disorderly movement of the elements through the formless receptacle of becoming, the *hypodokhē* or *khōra*. Even Nietzsche acknowledges the relation between rhythm and form and defines it as the form of the will-to-power. Here I propose a complete undoing of Plato's equivalence of rhythm with order and measure (meter or form) and propose an amorphous, swarming account of rhythm as proper to a proprioceptive field. Rhythm is the complex expression of fluctuation in a universe's enfolding. Rhythm always comes as fluctuating fields with multiple spans and strands, sustaining indeterminacy, a rhythmic micropolyphony. Every type of field is a mode of rhythm, with diverse degrees of rhythmic plasticity or openness.

Rhythm, one can say, is in fact the opposite of beat or meter, as affirmed by Ludwig Klages (1934; 1936),[55] quoted by art historian Maria Luisa Caturla (2021, 68).[56] One could consider a rhythm–beat continuum where rhythm corresponds to quali-

54 I will discuss in depth the controversial etymology of rhythm in Book 7 on movement philosophies, including the influential analysis of Émile Benveniste (1971, 285–87), who, after recognizing the possible etymology in flow, argues in favor of its Platonic–Aristotelian meaning as dynamic form, though he acknowledges its roots in a doctrine of flow and fluctuation. Michel Serres questions Benveniste and claims back the etymology of flow, of rhythm, as the *peculiar mode of flow,* or the mode of *fluctuations in flow* (Serres 2000, 154) — a reading upon which Deleuze and Guattari will also build for their influential accounts of rhythm as nonmetric.

55 Klages (1934) associates rhythm to its ancient etymology of flow and relates it to waves, as indivisible and always varying within similarities, as opposed to the meter that cuts and can be identically repeated.

56 Maria Luisa Caturla is an art historian that is recently being rescued from oblivion. In her groundbreaking but largely ignored book in Spanish from 1944, *Art from Uncertain Epochs,* which has just been reedited (Caturla 2021), she distinguished rhythm from beat, unknowingly challenging Plato's prevailing definition and bringing back the older etymology of rhythm as fluctuation. The greater the vitality of a situation, the less its rhythms will be reducible to a predictable beat. Inversely, epochs tending to dissolution are prone to repeatable beats and their "implacable anti-vital ham-

tative variation, irreducible to quantification and repetition, and beat corresponds to the taking over of quantification and repetition at the expense of the former: a reductive expression of rhythm along endless degrees and modes of a spectrum. But pure meter or beat, pure quantification, is the unreachable zero limit. It's not that life oscillates in a bipolar manner between rhythm and meter, rather, the latter is the reductive tendency, the anomaly of geometric fields. This continuum therefore expresses the aliveness of a situation or metabody, its degree of plasticity.

Rhythm finds one of its best expressions in waves as proposed by Klages, for instance in the zones of encounter of seashores and the eternal, multiscalar variation of small and big waves, currents, wind, or sand. Waves constantly but not abruptly change on multiple scales, from sets of bigger waves to the tiny waves within the waves, the fluctuations due to wind and currents, the foam breaking on the sand and rocks, the tide changes or longer-term erosion, and the animals inhabiting the currents and underwater ecosystems, moving like water does. Waves are never identical but never have abrupt changes nor cuts. There is no original wave pattern, no entity, one can't even isolate a wave; they are all entangled. Sea waves, as perceived from the shore, are a great example of amorphogenesis and the fallacy of being, of how becoming is not of a being but of irreducible and continuous fluctuation itself, where rhythm implies endless microrhythms irreducible to meter or cuts. All animals except dominant humans express this fluctuation in their torsional movement, which only got broken in certain bipeds who inaugurated the era of binary, linear, metric motions.

Following Nietzsche,[57] there are two ways of thinking rhythm, one involving overall changes in dynamics, another, cultivated by the Greeks, without overall dynamic changes, only changes in the distances between pulses. Think of tapping on a table with the same intensity but in different temporal sequences. But it can also be understood as the microrhythms of an oscillation or vibration, the frequency, and its momentum.

In any event, the in-between accents or peaks are the momentum in the bodily movement of playing an instrument or tapping, a suspension where the rhythm may reconfigure or recompose.

Now, momentum can be understood, as in Spinoza, as in-between active and passive affections, a moment of neither–nor where forces can reconfigure. Momentum can also remind us of Plato's *exaiphnēs,* as the instant of change between movement and rest which is neither–nor. But as I mentioned, fields also sustain multiplicities of internal fluctuation — internally and in relation to other fields — and are irreducible to active or passive states. Fluctuation thus implies ongoing momentum, neither passive nor active, and both at once. This acquires further thickness when one considers the endless micropolyphonies of rhythms and microrhythms that a body is composed of, in its endless layers and spans. We *actually* feel this in the blurry rhythmic texture of our proprioception, as our primordial sense of body, self, and world.

This implies that rhythm is per se undefined, as an ongoing suspension in between the micropolyphonies of fields consisting in a body. Rhythm doesn't only recompose between defined peaks, but all the time. Peaks are just part of the rhythmic field, a

mering." This symptomatology is very timely for analyzing digital culture's tendency to all-encompassing calculation and homogenization of the rhythms of life.

57 See Small (2010) for an extensive account of rhythm in Nietzsche. I expand on this in Book 7.

salient part to which we direct all our attention in reductive environments based on vision at a distance.

These accents may be organized into regular pulses, but I argue that this is rarely the case. Only in the Algoricene do we find this anomaly becoming dominant, with mechanical machines, disciplinary societies, and a metric organization of music and dance. Such regularities or patterns are considered at the source of "life as information," related to chemical clocks and oscillations creating regular patterns (DeLanda 1992). I want instead to argue for the pulseless rhythms as source of life, the openness of pulses where fields enfold.

What we have here is a primordial question about the role of indeterminate fluctuations versus periodic oscillation in cosmology, biology, and culture. How far are regular cycles necessary for life, and how far are fluctuating variations necessary? How far is movement–life always in-between? When I speak, the internal differentials of my intonation compose the rhythm of my verbal speech, and the differentials in my gesture compose the rhythm of my nonverbal communication, while microgestures and internal changes of tension, torsion, etc. compose the rhythm of my proprioception — which you nonconsciously perceive and resonate with when you hear me, see me, or move with me.

Rhythms are never reducible to measurable speeds, because they are already qualitative. But speeds are always composing rhythms. Such speeds are relative to fields, not to the abstract and homogeneous field of Cartesian coordinates. This doesn't mean that qualities come from quantities. Reducing speeds to such coordinates misses the internal dynamics of the field by imposing on it the external reference of a dominant frozen field. Quantity is not an ever-present pole of reality, but a narrow perception of it. Quantity is only possible when reduction in a field allows it to have a fixed reference. When quantity becomes the all-encompassing frame of reference, it is a symptom of a field's systemic reduction — a problem that needs to be overcome, as it blocks *the qualitative as variation.*

Consider changing speeds in a flock composing its rhythm. The speeds are not happening in relation to an external reference of Cartesian coordinates. Whoever tries to frame them that way misses the core aspect of how the birds feel speeds and accelerations relationally and proprioceptively as they change orientations and distances, but also their internal proprioceptive configurations. Speeds and accelerations are already irreducible to measurement. This is clear when we assume that fields are in ongoing transformation. What allows measurement is precisely the erasure of this transformation, the freezing of the field in a fixed set of relations.

Metered music has evolved historically from the body and embodied practices. Dalcroze (1921) was absolutely right in claiming the primacy of proprioception over hearing in music. The increasing disembodied abstraction of music, both in the avantgardes, the pop realm, and computation era misses the *law of improvisation* (Furtwängler 1983) from which music enfolds as metabody or field. A composition is a rhythmic field composed of all its sections, phrases, and accents, that is, differentials in the fluctuation. A great performer will make you feel the rhythmic–dynamic field of a piece all the way through, displaying its overall tensional field.[58] Music

58 My preferred example for the merging of utmost plasticity and utmost precision, of depth and intensity, and for how fluctuation is core even within the highest perfection existing on record, is the legendary pianist Dinu Lipatti, in my opinion the greatest pianist and musician on record, by far.

emerges from fluctuation and expresses it, unfolds it, keeps it alive. The fluctuations of rhythms and meter, the "rubato" in playing a piece of the classical repertoire, are all expressions of this. Even in pop music based on mathematical, electronically programmed beats, the multiple rhythms and the voice of the singer will afford fluctuations. Without fluctuations, it's likely to sound pretty dead. Think of a music that apparently has a pulse, where its vibrancy and aliveness still rely on rhythmic plasticity and fluctuations, which is also plasticity of timbre and dynamics.

Every rhythm is already a *chorus,* a field. Every type of rhythm implies a different type of field and a varying degree of openness that is its vitality, its will-to-power-of-variation.

This goes down to the subatomic level — to the momentums in the spin of quarks in atomic nuclei, whose complex intra-actions, studied by quantum chromodynamics, afford the strong nuclear force binding nuclei together. Or the rhythmic momentum of electron clouds affording the compossibility of the atom with other atoms across the entire field of chemistry, of which our emotions are a complex expression. *The universe or multiverse is made of entangled rhythmic momentums.*

That's another way to approach the "endless histories" of quantum mechanics as endless potential rhythmic entanglements that make it that all potential universes are in this one. How? In the ontological indeterminacy of phenomena. Some perceptual acts involving observation apparatuses frame and select bits of reality, thus actualizing one particular state or history. Others, such as proprioception, don't. Proprioception allows *multiple states in the body to coexist and field forth in their indeterminacy.*

> *The politics of rhythm is thus the search for a reverberation, another state, comparable to trance on the part of the social body, through the ramification of each body.*
>
> — Tiqqun (2010, 6)

#### *3.3.1.2 Rhythmic Reduction and Domination: Clock-Time and Click-Time*

Life is about improvisation *technē*s developing plastic rhythms: sustained capacities of composition, variation, and mutation. We need improvisation *technē*s that let the proprioceptive field unfold its rhythmic plasticity.[59] The political challenge is not to have *other* rhythms, as suggested by Tiqqun (2010), but more plastic rhythms.[60]

Plastic rhythms allow us to rethink Simondon's account of phases, according to which fluctuation is neither passive nor active, but an ongoing suspension made of multiple microrhythms, never stabilizing in phases. Diverging from Nietzsche, I propose that life and its will to power is not about rhythm as form or pattern, but about

59 See Jaime Del Val, "Devenir musical: Músicas del devenir y devenires de la música," *Metabody,* https://metabody.eu/es/devenir-musical/, for my own music improvisation practice.

60 Parisi and Goodman (2009) propose Whitehead's concept of the extensive continuum as a way out of rhythm-as-pattern. Their proposal for a rhythmic anarchitecture as response to preemptive topological control resonates as much as it dissonates with mine, as they define rhythms as algorithms (while considering that algorithms can incorporate indeterminate infinities) and describe them as "relations of numerical instructions for the distributions of events in space and time," thus, acknowledging spacetime as *a priori,* while rhythmic anarchitecture would occur as spatiotemporal anomalies. I suggest that rhythmic indeterminacy resists and exceeds algorithmic compressibility, and that the anomaly is metric spacetime.

rhythmic plasticity and openness as the capacity to recompose one's rhythmic field with others. The fluctuating body can sustain multitudes of rhythmic intervals at a time: that is its *radical actual openness.* Its rhythmic field is always already a multitude of rhythms recomposing internally, as well as with the world.

*There is neither pure plastic rhythm nor pure meter. There are more or less plastic rhythms.* The plasticity is in the capacity of intervals to recompose with other intervals.

This book is about rhythm as irreducible to pattern. Resistance to pattern is characteristic of plastic rhythm, resistance to reduction, homogenization, and domination. Plastic rhythmic ecologies are those that resist this reduction.

What some fields problematically do is impose on others their reductive momentums and regular pulses, rather than reciprocally composing. This is what happens in the Algoricene, when perspective homogenizes relations, first in a period culminating in mechanical pulses (clock-time) and now double folding in algorithmic segmentation (click-time and planetary "real time"). Reduction of rhythmic plasticity in a field is a symptom of domination. Inversely, domination always implies modes of rhythmic reduction. Domination is about alignment of rhythms into meters, where emergence and plasticity are reduced in favor of predominant patterns.

The Algoricene exposes a particular mode of reduction that creates increasingly algorithmic rhythms: geometric–sovereign, mechanical–disciplinary, and digital–control rhythms. Plasticity is minimized when algorithmic (mechanical or informational) rhythms dominate the swarm by orienting movement.

And yet swarms are always resisting it, always out of time! *Rhythms don't follow a timeline; they generate microtimes,* dynamic intervals. Microtimes[61] are fluctuating time fields irreducible to measurement, unfolding their own conditions that emerge differently and in variation along with different modes of fluctuating movement. They never preexist movement and are (meta)modal: each field unfolds its time, as fluctuating microrhythmic mode, always in variation. Microrhythms resist becoming patterns and alignments. Substrates of minor ecologies, of fields sustaining fluctuation–variation rather than imposing themselves, they are microaffective. Rhythm as duration is temporization without time, without measurable reference.

#### *3.3.1.3 Counterpoint, Micropolyphony, and* N*-figurations: Strands of Present and Memory*

A proprioceptive field can move, without displacing, across many torsional zones at the same time, with no direction or in multiple directions. It already conforms a sort of counterpoint or polyphony in the body. But given the blurry nature of proprioception, I propose to name it micropolyphony, as the composer György Ligeti names the murmuring textures of some of his pieces, in which every instrument in the orchestra plays a different variation of a motif. Our proprioceptive experience is micropolyphonic.

This polyphony is not just in the here and now of an instant. It is in multiple strands and spans of desire and memory (protention and retention), rhythmic fields in ongoing recomposition, in the midst of which new compositions, new metabodies may condense if we allow it. Rhythms are not just here and now, but are accumulated and changing memories across endless fields, of which we are only a node of consistency.

61 On a first formulation of microtimes, see Del Val (2014).

There are always many tensional states (*n*-figurations) going on in the body. It's about developing an ear for counterpoint, for the micropolyphony at stake in the *n*-voices composing the body, a murmuring texture that varies continually in timbre, density, and register. Sometimes you distinguish the vague condensation of a timbre which dissolves or transforms, like a cloud, without you ever knowing exactly when.

The body is a micropolyphony of proprioceptive voices, a *molecular chorus* in constant transformation, yet we tend to see it as a single block, a distinct melody. Sometimes, at best, a fugue in two or more distinct voices might be heard. Some of these polyphonies may impose themselves, like a distinct melody rising over the orchestra, capturing all our attention. We mostly think that we are the dominant melody of a Cartesian subject. Introducing the idea of something like a baroque fugue with three or four voices would already be a significant step, before plunging into the murmuring micropolyphonic sea of our proprioceptions.

Micropolyphonies are made of complex rhythms and spans defining the breadth of our daily flocking, what Merleau-Ponty calls "intentional arc" (1962, 157). My present may be composed of many simultaneous fields that are somehow alive in this micropolyphony. Some might span over years. For instance, the affective tone of a relationship, associated with particular proprioceptive qualities (affects), habits, and so forth, may color perceptions and everyday life even long after it is "finished," but it will not have really finished for you until those orientations change and their affordances fade out in the background. Living in a house or neighborhood is an entire micropolyphonic field of expanded proprioceptions, intensive fields, modes of attention and affection.

#### *3.3.1.4 Modal Affects and Affective–Qualitative Indeterminacy*

Rhythm relates to affects, as the qualities of the affections that define a metabody and its relations to other metabodies. Affect is not only in relations to others but also to the fluctuating field itself. Affects are the qualities of fields, of the affections across fields and within them — the quality of fluctuation. A new metabody comes up when a new affect, a new quality, condenses in the ongoing transductive reattunement between fields: in the multilayered rhythms of fluctuation.

Quality and affect are not *a priori* the rational interpretation of a subject. Rather, this interpretation is a framing of quality and affect that reduces its intrinsic indeterminacy. My dog-friend may not reflect consciously about qualities and affects, yet still experiences a tremendous range of degrees of vitality and expression that evolve over time. One could argue that this is my rational interpretation of it, reflecting my own biases. And yet, what matters is the intentionality: framing to reduce, or moving with others to sustain variation. Interpretation is the way in which a movement field processes its affections with other fields in recomposing with them.

Affects are intrinsically fluctuating, neither active nor passive, and both. This conception both relates to and exceeds a Spinozan account of affect (Spinoza 1985). As force that affects and is affected, it exceeds the notion of emotion, particularly in Massumi's account (2002). In Spinoza, an affect is an affection of the body that increases or decreases its power to act (1985, 483). But the Spinozan affect doesn't change the form of a body and involves active–passive forces and momentums of suspension in between.

Massumi speaks of affects as the "participation of the virtual in the actual and the actual in the virtual" (2002, 35). The autonomy and openness of affect is its participation in the virtual. Emotion is the capture and closure of affect in "qualified,

formed, situated perceptions and cognitions," which retain their liveliness and openness through the virtual affects which escape them.

I propose to think affect not in relation to active and passive, nor virtual and actual, but as a quality of fluctuation that is actual in its indeterminacy and its ongoing momentum. Rather than thinking of affect as distinct from emotion and between the two planes of actual and virtual, I consider emotions as part of the wider spectrum of affects: as those affects that have become aligned with normative ways of affecting and being affected, homogeneous qualities of relations that define an aligned social field in disciplinary and control societies.

Macroaffects are so-called universal emotions, relative to homogeneous modes of relation in geometric, mechanical, and industrialized environments. Hyperaffects are their simulation, overcodification, and instrumentalization in current algorithmic regimes (emoticon culture, Facebook, or Trump, and, even more insidiously, the programming of emotions in AI, robotics, face recognition interfaces, etc.).

Microaffects, conversely, are the much broader field of more undefined qualities of experience and relation, always in variation. Microaffects are micropolyphonies of murmuring qualities — sometimes intense, distinct even in their blurriness like when a high metallic timbre consists within the texture of Ligeti's *Atmosphères,* but always multiple and always moving toward new condensations.

Microaffects are distributed and symbiotic, connecting us with the world. Macroaffects, instead, are toxic and concentrated in the family and its hierarchies, based on our split from others and our environments. Like the monocultures of crops, macroaffects cannot but be toxic, reductive, creating entropy that does not transform. Hyperaffect tries to capture that surplus in more dynamic niches of simulations and control, only accelerating the thrust to extinction.

An affective condensation is always multifaceted. The afternoon light that I see in the view of my roof terrace is a sensory quality. It can, of itself, create an affective resonance, but it will be deeper when it composes with other modes of experience — a relationship, a longing.... It does so over the years of living on the terrace, but also relating to older condensations, for instance, how the afternoon light, as it condenses in planes of pure light in the landscape, has embodied since childhood a particular sensation of aliveness, of opening. This is the way in which memories compose our becoming, in transmergences of fields, of intensive states composing the body that we are. This is also where alignments appear. If my experience of the view and the light ceases to open up to new variations and becomes associated with a narrowing experience, a trauma, a dependence, as occurs in many relationships, the view and the light may then become escape valves. But then how to sustain openness rather than enter a bipolar dynamics oscillating pendulum-wise between rigid alignments and radical disalignments?

Sometimes we may seek to invoke a positive intensity through something that condenses part of the whole: an object, a picture, a place. These never represent but may unleash with variations the broader affective field of which they are part.

But because of how qualities emerge in this endlessly complex transmergence, across thresholds of condensation, they are always intrinsically blurry. I want to challenge Whitehead's idea of qualities ever becoming defined. I find problematic the tendency of philosophers to use color as an example, since color is a reductionism of light's indeterminacy. It allows us to extract the fixity from the movement. When I look at a sunset, the one thing I am certain about is that I cannot reduce it to a color. It condenses an experience in me by unleashing a transduction in my

proprioceptive field and its multisensory integration, its fluctuations — a transduction that never actualizes, but keeps moving onward. Memory as a storage of data is a tragic reduction emerging in the Algoricene that misses memory's role as evolutionary force of mutation.[62]

Qualities always sustain a charge of indeterminacy that is bound to them, like the electron is bound up with its cloud of quantum fluctuations or virtual particles. It's not that the quality is something defined inside the field of indeterminacy, rather, the quality is itself the field. The quality is indeterminate. Indeed, the *degree of indeterminacy of the quality is an ontoethical measure of its openness.* If a quality becomes determinate it will be an expression of reductive movements, of alignments that need to be opened up, *indetermined.* And yet, qualities make a difference. What is the place for difference in my proposal? Certainly, a crucial one, in order to avoid the idea of a "pure indeterminacy" as a sort of absolute indifferentiation. *Indeterminacy is not indifferentiation.* On the contrary, it's the *very condition of possibility of a differentiation that must be grounded on openness and relation,* rather than distinctness.

*Difference is not a state: it is a movement of variation.*

There are moments we could call "prehension," that is, when certain impressions leave a strong imprint, a condensation. One feels this as a global shift of awareness, as when the whole field suddenly transposes while changing internal relations, densities, and rhythms. Then a perception that had become established is displaced, as when I change the usual path in my daily walks and perceive the streets and buildings differently. Suddenly I understand a building in a new way, and the whole field of movement shifts. But this entails no actualization. On the contrary, it's a new shift in the always already fluctuating field. I feel it physically, proprioceptively, as an opening. When I draw in the terrace and a line emerges in the proprioceptive gesture, condensing a new rhythm in my relation to the panorama of the city, this line is not an actualization. It is an intraductive shift of the field that I am.

...

*Modal affects* are the rhythmic qualities of fields that sustain a certain capacity for reconfiguration, thus also a certain degree of irreducibility, illegibility, and indeterminacy. There are endless affective modes. They are defined by a depth of resonance, of entanglement with multiplicities of other fields composing memories as capacities to act in the world, to resonate. Modal affects speak about the capacity to disalign blocks of affects that have become excessively solidified, the capacity to recompose them.

How to disalign from the smooth accelerated affects–rhythms of clicking, of clock panopticons, of repetitive sex, of possessive romanticism, of paternalism, of alignments to screens, of joystick coordinates and killing in videogames, of shooting pictures or guns, of linear memories aligned with futurities and lack, of totalizing subjects uniformed under the linearity of perspectival memory? And in the age of autonomous algorithms, how to disalign from the smooth rhythmic seduction of topological affects and curvilinear preemption, of emoticons and simulations, of the opaque profiling of behaviors and interfacial regimes, of the nonconscious micro-

62 Typical examples of the dominant idea of memory as a storage of data can be found in transhumanist projects like Elon Musk's Neuralink, where one is supposed to be able to store memory in a hard drive, as well as in all mind-uploading, related proposals.

intervals where algorithms modulate our attention? By mobilizing our Body Intelligence, our proprioceptive swarm.

Illegible affects,[63] like microaffects, account for the importance of the ambiguous and nearly legible,[64] as substrate of life and diversity. As opposed to the Darwinian conceptions of universal utilitarian emotions put forward by psychologist Paul Ekman (1972) and its distaste of less important, less identifiable "aesthetic" emotions (Scherer and Zentner 2001), I propose that the substrate of life, as *movement of variation and complexification, of diversification toward increasing richness,* needs to sustain fluctuation in affect — allowing the qualities of experience to continually vary while creating conditions for consistency: always only the minutest ongoing variation.

If the plasticity of rhythms is the openness and aliveness of a field, the richness of rhythms is also its depth of resonance and memory — thus its resilience and sustainability.

> *All that existed was undifferentiated substance, principle of becoming, fluid and without form.* [...] *Then desire sprouted, first seed and germ of thinking.*
> — *Ṛgveda,* "Creation Hymn"[65]

> *The ordinary adult never gives a thought to spacetime problems* [...]. *I, on the contrary, developed so slowly that I did not begin to wonder about space and time until I was an adult. I then delved more deeply into the problem than any other adult or child would have done.*
> — Albert Einstein (quoted in Seelig 1956, 72)[66]

### 3.3.2 Orientation, Microspacetime, and Microdesire Ontology

Orientation and desire can be more or less directed, more, or less determined. Desire is the impulse in fluctuation, the force of its will to variation, of its openness and sensitivity. It's the overfullness of fluctuating fields varying forth and recomposing with multiple other fields — the overfullness in the fielding forth of fluctuation. But desire also speaks of the degree of directedness in our ecologies. The more desire narrows down to given orientations, the more we are entangled with problematically aligned fields, when surplus is captured in alignments. The utmost reduction of orientation and desire came with the emergence of linear spacetime[67] and subject–

63 See the Metabody EU Project Illegible Affects, *Metabody,* http://metabody.eu/illegible-affects, which proposes to focus on the spectrum of expressions and affect that is irreducible to codified or codifiable emotional patterns.

64 Illegible affects resonate with Sandy Stone's Near Legibility project in the ACTLab, in which Stone played with the ambiguous resonances appearing when something is "nearly legible but not quite." https://sandystone.com/work/shroud.html.

65 My version from several sources, see *Wikipedia,* s.v. "Nasadiya Sukta," https://en.wikipedia.org/wiki/Nasadiya_Sukta.

66 See "Einstein's Big Idea," *NOVA: Science Programming On Air and Online,* https://www.pbs.org/wgbh/nova/einstein/wisd-nf.html, on his belief that it is usually children, not adults, who reflect on spacetime problems.

67 Regarding the invention of space with geometry, see Cornford (1976). See also Derrick de Kerckhove on the invention of space and spatialization (2001, 7). On the production of space in its different modes (social, absolute, abstract, contradictory, differential), see notably Lefebvre (1991). On heterotopias as "other" spaces within normative space and on the disciplinary organization of space, bodies, time, and the panopticon model, see Foucault (1995; 1997). Harold Innis's (1951) approach to space-biased versus time-biased cultures in communication theory is also foundational to studies

object splits in geometric and perspectival fields. It's within these that the willful subject and its teleological desire emerge, as trajectory oriented to a goal, eternally postponed as lack. An economy of reduction rather than excess and variation. I will instead define desire as amorphogenetic force, a resistance to form, to reduction, to narrowing.

Microdesire is desire understood not as lack, but as overabundance of a body projecting itself into the world, in symbiotic relation with the world, like the wandering animal that smells and jumps and shits and eats without goal. It is desire minus teleology. Aristotle (1978) got it all wrong when defining animal locomotion as defined by teleology. This was expressing the symptom of a reductive era, just like psychoanalytical descriptions of desire as lack are just expressing the symptom of that same era. Desire as lack (macrodesire) is the effect of impoverishment of the body and its internal fluctuation and the instauration of regimes of programming of the future that emerged with agriculture, both together (atrophy and programming) and growing ever since, up to the current market-driven production of desire of a body always lacking something and oriented by external promises of an ever deferred satisfaction. There is no way to satisfy such a desire, except by regaining the lost richness of embodied experience. Instead, algorithmic culture expands reduction into a hyperdesire of accelerated production and preemption through increasingly sophisticated technologies that capture emergent tendencies of desire on the fly.

When my proprioceptive field can resist directedness and narrowing, when it can continually recompose with multiple affordances that are not directing movement as if the body were a single block displacing in a fixed space but shifting instead the entire field, transducting with others, transforming all the while, then openness can be sustained. For this, one needs to cultivate a rich and plastic proprioception as field of reference for experience, instead of subjecting it to the dominance of fixed vision, cultivating a more proprioceptive, multisensory, plastic, and less perspectival perception.

Homogeneous extension, or measurable, perspectival, Euclidean, Cartesian space (macrotopias) equate to Henri Lefebvre's concept of *abstract space* as a tool of domination where the qualitative disappears (1991, 352), and which in conflict with other kinds of social space creates a *contradictory space* (302). Lefebvre points to the possibility of defining a differential space that exceeds contradictory space. He points to the need for studying relations for enacting a differential space that emerges from the bodies (401).

I propose to take this further by enacting a proprioceptive space, that is, thinking space as primordially proprioceptive and plastic, a spacing. Instead of a differential space, I propose an indeterminate one that resists narrowing down into fixed geometric references. We cannot underestimate the role that the invention of space has had in movement reduction since ancient Greece. We need to undo the totalizing fiction of space! We need spacings without space!

Macrotopias are where Cartesian–Newtonian, absolute, extensive, mechanistic space dominates and orients desire in causal trajectories and dualist splits of disciplinary alignments. Hypertopias are where algorithmic affordances in plane-

on space and modes of relation, where the space-bias relates to empire formations, from the Roman to the US empire, and space-biased media (like paper, affording bureaucracy, also crucially in the Spanish empire) would be foundational to the empire. In turn, Rouvroy (2013) calls atopia the kind of nonspace of current algorithmic culture.

*Fig. 32. The Shroud of Our Lady of Santa Cruz* (13" × 18"). Near Legibility Project, Sandy Stone, ACTLab.

tary-scale computation systems (currently under the Big Data paradigm) dominate and orient desire in ever-changing digital ecologies. These try to preempt future desires, where every previously useless flow and surplus may eventually be captured and capitalized, and where domination constantly produces the new in order to preempt novelty. But hypertopias are grounded in macrotopias as a double-folding. Just consider how perspectival current digital interfaces are, as they align us with fixed points of vision.

Exceeding both macro- and hypertopias are micro- or metatopias as proprioceptive spacings sustaining a high charge of indeterminacy, resisting reduction to measurable spacetime. These are spacings that emerge from proprioception and across entangled proprioceptions.

Disorientation from dominant narrowing alignments implies a metaorientation, indeterminate in its multiplicity. At stake is the opening up of the intentional arc of movement, which algorithmic ecologies have narrowed down, and the unfolding of desire not as lack but as surplus: a tendency to multiple recompositions, a will to grow and recompose, that is, an economy of nature as excess, mutation, variation without goal, where a universe unfolds in as varying and rich expressions as possible.

Why should I link desire and spacetime? Because both are an issue of orientation and economy. The idea of an abstract, homogeneous, linear, measurable spacetime matrix and of desire as linear orientation to objects is arguably the most narrowing affordance for our orientations. It's the most effective affordance in narrowing down movement and enacting an economy based on deferral, whose ultimate paradigm is all-encompassing calculation and quantification in which everything can be accumulated, postponed, manipulated, and recomposed according to calculation. It's the space of perspective, where homogenized perceptions, aligned with fixed points of vision, create the world's reductive double: the dualist illusion of a homogeneous space and a disembodied observer. But what about the fluctuating multiplicity of our proprioception, the multiple swarms, the diffuse intentional arcs of desire as overabundance, variation, and excess? The immediacy of proprioception is a threat

to economies of deferral. *Propriocepting is immediating.* We can learn from perspective, however. It's not a question of going back to preperspectival eras but of inventing new, more plastic perceptions.[68]

Sarah Ahmed (2006) proposes a politics of disorientation in her threading of phenomenology, queer politics, and postcolonialism, where queering is a perceptual disalignment from the straight trajectories conforming a normative world.[69] But disorienting perception should imply *opening up the directedness of perception to something less directed.*

Here I deviate from thinking experience in terms of, on the one hand, a more developed neurotypical mode that cuts and determines (implying object-oriented perception, directedness of orientations, actualization, and extension), and on the other, the infinite openness of the virtual. I think the directedness of object perception is not essentially or necessarily more developed. It's rather more reductive,[70] and between the directedness of object perception and the openness of an infinite virtuality, there is always a very rich, infinitely changing, interesting and complex indeterminacy going on.

Expanding once more on Brian Massumi's suggestion to use "proprioception as the general plane of cross-referencing" in elaborating "technologies of emergent experience" (2002, 192), and of recomposing the peaks of experience (Massumi 2017) as part of an "art of the relational body," I want to suggest that what's at stake is *to create less defined peaks of experience, less directed modes of perception,* in whose entanglement metatopias may appear.

*Metatopias* are (trans)modal, indeterminate spaces that refuse reduction and alignment, and that may traverse more aligned fields opening them up to indeterminacy.

#### *3.3.2.1 Proprioceptive Spacing for a Theory of Value as Only Qualitative*

Rather than thinking space and time as given geometric abstraction, one can ask, expanding on Derrida's *différance,* what kinds of spacing and temporization come about in movement?

Consider the flock once more. What is the spacing of its internal elastic relations as it expands, contracts, turns, swerves, partly aligns while always changing internal relations? The elastic and amorphous spacing of a flock of birds is a starting point to rethink other processes of spacing that are more aligned. When moving daily, how much are we aligning proprioception with a given geometry, how much do we allow it to space in new ways, as it tends to other bodies or fluctuates in itself? What are the peculiar dimensionalities of that swarming movement? The torsional dimensions of my relation to something, my degrees of proximity and postural shifts in relating to the kitchen or living room compose themselves a space of internal relations for which Cartesian coordinates make no sense.

Spacing and temporization are not unavoidable terms or poles in a bipolar reality, and they can be seen as tendencies or merely as modes of analysis with the limit case of pure Cartesian extension and linear time as an unrealized abstraction.

68 As Jean Gebser (1985) proposes, toward an aperspectival culture.

69 See also Wilton (2004) on a politics of sexual disorientation.

70 See Massumi (2017) for an expanded questioning of the dominance of directedness in perception and its pathologization of synaesthesia, suggesting art as an "experimental practice of composing new peaks of perception expressing the living, moving body's qualitative multiplicity, unfolding in new variations its capacity to change."

Imagine again the birds of a flock connected by invisible elastics or membranes. How would these twist as they change direction? How do sensations of elasticity in our proprioception twist in microtorsions as internal positions shift together with elongations, tensions, and speeds — and the endless exteroceptive and interoceptive sensations that are also composing the movement as relational — as I tend to the kitchen's affordances flocking around? Our bodies unfold and infold, enfold, twist in *n*-microdimensions of *n*-microtorsions of *n*-changing membranes, braided, twisted qualitative dimensions that consist and transform, leaving open memories in the body–swarm.

A spacing continuum could thus be thought in five manners:

— with space on one end and time on the other, so that the more you spatialize, the less you take care of temporality (Innis 1951; Gebser 1986);
— with spacetime along a line, in which you have more plastic and indeterminate spacetimes on one end and more rigid and quantitative ones on the other;
— with spacetime on one end and no spacetime on the other, where spacetime is itself a mode of reduction to quantity and measurement;
— with quantitative spacetime on one end and qualitative spacetimes on the other (a variation of the previous);
— with zero dimensions on one end and *n*-dimensions on the other (the infinite, blurry and changing dimensions of our proprioception as qualitative torsional field, as *n*-dimensional string figure, like a sort of Calabi–Yau topology).

Only when part of a field fixes itself, the quantitative appears, as it needs a homogeneous reference. Some will argue that this is needed for life. I argue that proprioception allows fields to cosense and coemerge with much greater subtlety and creativity. Let's take out from experience the dominant poles of perspectival points and regain a richer proprio- and alloception and multisensory integration. The implications of this are deep. It implies *claiming value as purely qualitative, as irreducible to quantity, and yet capable of sustaining economies of variation,* as happens already in nature.

…

*Desire* here is crucially reconceptualized, not as lack ensuing alignments that impoverish and orient (dimensional space being their primary expression) but as superabundance, as thrust and thrive to openness, to variation, to symbiosis, as overfullness of internal fluctuations that want to compose themselves with others.

Openness in orientations, when bodies fluctuate *enferentially,* instead of being guided exoreferentially, accounts for desire as overabundance. Desire can be turned into lack only by impoverishing a body's fluctuations and subjecting it to external orientations.

Desire is *clinaos,* the chaosmic will to power of variation, which sometimes gets reversed into a will-to-domination based on impoverishment and alignment with a circle of deferral, accumulation, and lack.

> [*T*]*o fragment* […] *gender in new and unexpected geometries,* […] *myriads of alterities* […] *that exceed the frame of any possible representation.*
> — Sandy Stone (1987)

> *When one transcends male–female dualism, eroticism becomes susceptible to a more subtle mathematical understanding.* [...] *The vast majority of the species has not seen past the conditioned structures of the number two. And even those in the vanguard, having their orgies, still operate from the standpoint of a male–female dualism. The only way out is to go within to heal the internal split.*
> — Marco Vassi (1976, 172)

> *Schizoanalysis is the variable analysis of the n sexes in a subject,* [...] *to each its own sexes.* [... W]*hat are your nonhuman sexes?*
> — Gilles Deleuze and Félix Guattari (1983, 322)

> *For the two sexes imply a multiplicity of molecular combinations,* [...] *a thousand tiny sexes.* [... T]*here are as many sexes as there are terms in symbiosis,* [...] *n molecular sexes on the line of flight in relation to the dualism machines they cross right through.* [...] *Knowing how to love* [...] *means extracting from one's sex the particles, the speeds and slownesses, the flows, the n sexes* [...] *of that sexuality.* [...] *Sexuality* [...] *is badly explained by the binary organization of the sexes, and just as badly by a bisexual organization within each sex. Sexuality brings into play too great a diversity of conjugated becomings; these are like n sexes.* [...] *Sexuality is the production of a thousand sexes, which are so many uncontrollable becomings.*
> — Gilles Deleuze and Félix Guattari (1987, 213, 224, 277–78)

## 3.3.3 Contact, Microsexual Ontology

### *3.3.3.1 Microsex and Sex as Mutation: A Postqueer Theory of Metaformativity*

#### *3.3.3.1.1 Beyond Sex as Oppression*

How do movements compose bodies or metabodies of varied dynamics, with greater or lesser consistency and openness? Composition is not so much about generating a formal totality, but about the memory of improvisation in movement fields. It's part of a law of improvisation in which multilayered resonances and memories of the fields unfold. Composition-as-improvisation is variation. In terms of organic life, it equates mutation.

I associate composition-as-mutation to sex, following Margulis's account of bacterial sex as metamodel for evolution where sex is not related to reproduction[71] but to mutation. In the stratum of inorganic movements, one can consider, for instance, how the gravitational collapse in stars creates nucleosynthesis as a form of stellar sex that creates a new element, whereas in nebulae or other matter flows, elements may aggregate into new compounds and simple molecules without forming new elements. This is another type of material sex. In the stratum of organic movements, it gets more complex, where the folding aggregates of proteins creating sustained metabolic processes can reciprocally transform one another through biochemical intraductions. In bacteria, these mutations cross a threshold of consistency and complexity which has sustained and fostered the movement of evolution on Earth

71 As soon as we substitute the unity of a being by a fluctuating swarming field as ontologically indeterminate and in ongoing variation, there cannot be reproduction; the concept is simply wrong. Every act (even of a traditional sexual reproduction) is of mutation. Instead, there is metaduction!

for over four billion years, when reciprocal molecular transformation in bacteria happens almost directly through viral transduction and bacterial sex as genetic exchange. This plasticity seems to be diminished in multicellular bodies like us, as it goes through sexual reproduction. But still, our bodies have many other ways of sustaining plasticity, well beyond the scope of genetic mutations: biochemical and epigenetic mutations of all sorts.

Sex is the mode of contact, proximity, and density affording composition as mutation and variation.

Compossibility designates sex as *power to unleash sustained but indeterminate potentials in a body, composing with other bodies.* Potentials are not only powers of (re)composing by constantly reattuning proprio- and alloceptive fields, but also the ontological indeterminacy of fields.

Compossibility is defined by thresholds of consistency, when compositions create new metabodies with particular qualities, not entailing a speciation but an ongoing variation in which qualities–rhythms–affects emerge that are both unique and indeterminate.

This account of sex clearly exceeds the narrow account of sex-as-reproduction, associated with certain accounts of genital morphologies and penetrative choreographies. The way in which certain compositions–mutations–variations become differentiated into more or less defined relational domains depends on contingencies of the universe's evolution and does not correspond to a universal law. That some of those compositions evolve into the types of relationalities that globalized Victorian morality considers sexual, whereas others belong to the realm of kinship, family, and other affective bonds is part of this contingent and open-ended story. One could merely speak of modes of relation or mutual immanence but given the sexphobic and somatophobic aspect of the now dominant frames I want to specifically claim the sexual, the orgy, as "plane of immanence" of mutation, which is also conceptually correct in symbiogenetic and evolutionary terms. Our tendency to fuse with others is due to how fluctuations unfold in ever increasing complexities of which our biochemical, neuronal, emotional, hormonal, metabolic, epigenetic, and genetic mutations are an expression. The anomaly, I claim, is the distancing of oneself.

...

I will take as a starting point the idea that sex, as a historical category related to normative binary oppositions, is the effect of oppression, an instantiation of power relations in class and slave societies (echoing many feminist, queer, lesbian, and transgender theorists, such as Monique Wittig, Gayle Rubin, or Martine Rothblatt). There is no "natural" sex which holds ontological *a priori* status. It is a classification system in dualist slave states and empire societies, an apartheid.[72] However, I believe it is not enough to say that sex as such doesn't exist. Since it does exist as a regime of oppression, we need alternative modes of experience and embodiment beyond the dominant binary regime that has defined oppressive and reductive modes of body compositions. In order to rethink sex beyond its oppressive classificatory nature, I

72 Species, sex, race, or ability are all apartheids, inessential classificatory systems that have become naturalized *because of the narrow perceptions that they came along with.* Undoing humanism, speciesism, sexism, racism, or ableism implies undoing the fixed point of vision and other narrowing alignments that sustain these colonialist chimeras of reduction. Enslaving and dominating are always an issue of reducing movement–perception. The paradox is that this reduction affects the dominator too.

follow Lynn Margulis and Luciana Parisi, taking their proposals elsewhere, through the concept of microsex and its relation to the proprioceptive swarm.

Following Margulis and Sagan (1997, 17), sex is genetic recombination. Margulis develops serial endosymbiosis as an orgiastic theory related to what she calls bacterial hypersex, which I will instead refer to as "microsex," where sex is not about reproduction or speciation, but about ongoing reciprocal mutation.

Parisi builds upon Margulis[73] to say that "sex is an event: the actualization of modes of communication and reproduction of information that unleashes an indeterminate capacity to affect all levels of organization of a body" (2004, 11), whereby "actualizations unfold the differential degrees of power (intensive *potentia*) of a body, [...], these bodies are linked to 'quasi- or metacauses' unfolding the capacity of a body to enter a new composition by precluding the body to acquire definite forms and functions" (28).

Sex is thus linked to the preclusion to acquire definite forms and functions. Since forms cannot be undefined by principle — as that would imply the amorphous — I want to suggest that this formulation correctly gestures toward, without accomplishing, an *amorphogenesis* that bypasses notions of actualization as determination altogether. As already said, the actual is the sustained indeterminacy of movement fields.

I want to shift from sex as actualization, which still presupposes dynamic form as condition, to sex as relative to modes of perception as transformative contact enabling indeterminate compositions of bodies–swarms, relative to proprio- and alloception.

Microsex relates to Luciana Parisi's concept of abstract sex in that it is a power of mutation across all strata of naturecultures defining a "mutant hypernature," in her terms. But it also differs radically from it, in that there is nothing abstract or incorporeal in it.

Microsex is the opposite of the sex of Western metaphysics as controlled reproduction of a fixed entity, which I term the regime of "macrosex," or of the capitalization of previously useless activities and flows of desire in the flexible market niches of late-capitalist and algorithmic economy, which I refer to as the regime of "hypersex."

Macrosex, or sex as reproduction, is proper to the oppressive regimes of human multiplication on the rise since the Neolithic, accelerating exponentially since industrialization, founded on a Planetary Holocaust of animal exploitation and its associated destruction of the planetary environment unleashing the Sixth Great Mass Extinction,[74] related to human verbocentrism and the predominance of alienating abstractions, the era of carnophallogocentrism.[75]

73 The link that Parisi articulates between Margulis's symbiogenesis or bacterial sex and an abstract virtual sex was already pointed to by Deleuze and Guattari when they say in *A Thousand Plateaus* that "there are as many sexes as there are terms in symbiosis," as cited in the quote opening this section. They relate their idea of *n* sexes — also referred to as molecular, nonhuman, thousand tiny sexes — in *Anti-Œdipus* and *A Thousand Plateaus* to that of desiring machines and of becomings, as lines of flight that "cross right through" the dualism machines.

74 I will unfold this theory in Book 5.

75 On carnophallogocentrism and the intrinsic relation of human carnivory, phallocentrism and logocentrism, see Derrida (1992; 1999), and see Adams (1990; 2003) on the sexual politics of meat and feminist veganism.

Microsex, instead, is the capacity for continuous and programless mutation of a body in relation to other bodies — not only a genetic but cognitive, perceptual, affective, epigenetic, and ecosystemic mutation as capacity for symbiosis, an inheritance of the four billion years of molecular and bacterial orgies from which we stem.

*Microsex is the capacity to sustain variation while cocomposing.* Given the primacy of fluctuation, mutation is prior to reproduction in evolution — not the error in copy. Copy is the anomaly in fluctuation–mutation. Bacterial sex is only about mutation, and bacteria have no programmed death. Reproductive sex and death emerged together as imperative of mutation in multicellular organisms like us, who need to regenerate entirely to keep mutation–variation going. Thus, against the transhumanist claim for individual immortality, I want to claim (echoing Nietzsche) shorter lives with richer qualities, lives that keep cosmic variation going!

…

Perspectival regimes have fostered an ontological split between bodies, favoring a representational model of sex as reproduction of an entity — a counterevolutionary Parmenidean chimera.

But every metabody, every field or new composition of bodies, is defined by a different mode of sex which is also its perception, that is, the particular modes of proprioception and of multisensory integration composing a field. These are the endless sexes of nature. The orgy is their paradigm. Nature is composed of endlessly varied orgies of proprioceptive mutation. The primordial sex of a field is in and with itself, as proprioceptive field.

*3.3.3.1.2 Transmodal and Epigenetic Mutation*

Bacteria mutate continually, exchanging genes. We have more complex mutation mechanisms.

Every new combination of your joints, affording a new composition with another body, is a new sex, another mode of proprioceptive–multisensory integration, a new perception and capacity for variation and movement, for *transmodal mutation* across your epigenetic expressions, metabolism, neuronal fields, hormones, and affective–cognitive qualities — at least as long as it crosses a threshold of consistency in mutation.

Every time you couple yourself in new ways to a body in the emergent improvisations of full body contact, but also with anything around you or with yourself, when you feel a new proprioception associated with a new sense of movement and multisensory integration, an affect, an intensity, and a quality of experience are born, a metabody in symbiosis with others, a composition that entails a mutation in the bodies encountering, and in their surrounding field. New synapses appear in your brain, changes spread through your metabolism, your hormones, and your entire bodily chemistry, new memories are created, new qualities of experience, new joys and wonders whose waves spread across your surrounding ecosystem.

Reducing sex to the programmed reproduction of an entity, erasing its role in mutation, amounts to killing it. Rather than saying that there is no natural sex (because naturalization is oppression) and claim only technical–political sexes (reducing the body to code), we need to claim and unleash the indeterminate power of mutation of sex across all strata of naturecultures.

The power to sustain openness and variation in the process of composition is the definitory aspect of sex. My account of sex does not only imply genetic informa-

tion transfer or genetic recombination, as in Margulis's and Sagan's proposal. The transformations going on in bodies like us happen through epigenetic, metabolic, hormonal, emotional, nervous, neuronal, "mental," and other chemical mutations and transductions within a body and across bodies, building upon transmodality as one of the four aspects of the law of fluctuation. For instance, epigenetics exposes the way in which biochemical mutations in bodies are ongoing in excess of genetic code.[76]

We need to challenge the primacy of DNA in our culture. Indeed, DNA is not a code. As recent research is showing,[77] it's a supercomplex folding movement and a partial encoding and memory of other folding movements, the metabolic and growth movements of proteins creating always richer compositions as processes of energy transduction.

Since a body is a transmodal field, any mutation in one of its metafields (for instance, the hormonal field) may unleash mutations in the others (for instance, through emotional states, or neuronal states of thought whereby state means "mode of fluctuation.")

For centuries we have assumed fixed points of vision that frame relations and reduce mutation, imposing the chimera of fixed entities that want to self-replicate and become immortal. Instead of looking at bodies from a perspectival distance, I suggest enacting deeper and more transformative proprioceptive entanglements, for instance, as when I hug the other person and feel the transformations in my tissues. Here, sex is not just focusing on genital penetrative choreographies, rather it explores endless variations of multisensory integration and proprioceptive reattunements. In this way, sex is a threshold in the mutating composition of bodies, when I allow a deep recomposition of my proprioceptive field in the relation with other bodies, or with elements from the environment, or with myself as fluctuating multiplicity.

What could be named as epigenetic sex points to the way in which compositions and contacts generate new perceptions, which may unleash mutations across all strata of a body. Thus, we can recuperate the radical association between mutation and sex in bacterial evolution.

These microsexual compositions imply real mutations and openings in the proprioceptive swarm that we are, and in our ongoing composition of new metabodies. A change in perception implies changes in neurological, chemical, molecular, material, (epi)genetic, social, and psychic compositions of metabodies, where narrow movements imply narrow bodies and worlds, and plastic movements imply richer affects, perceptions, thoughts, and relations. This change may happen in a deep conversation or a hug, in a sexual coupling or an orgy, anywhere new intensive fields and new proprioceptive configurations emerge.

...

Macro- and hypersex are reductive modes of sex that foreclose compossibility. Macrosex defines the mode of contact and composition proper to the static algorithmic regimes of disciplinary societies. It's a perspectival mode of sex and composition of bodies minimizing mutation. Their most consummate expression is reproductive, functional, genital, pornological sex, the mode of sex oriented to reproducing

76 Genetic transfer in bacteria is an expression of *anarchē*-proprioception as *sensing-the-world-in-sensing-oneself-in-motion-and-transformation* and exposes a deep mode of reciprocal transformation.

77 See Book 4 concerning the recent research on the supercomplex 3D folding movement of DNA.

the image of a geometrically fixed entity.[78] Hypersex is a more dynamic preemption of the compositions of a metabody, modulated by planetary-scale computation systems, but still grounded in geometric alignments as a further folding of these. Macro- and hypersex are morphogenetic processes, foregrounding reproduction and preemption rather than indeterminacy as diversity. Macrosex focuses on static forms and hypersex on dynamic forms.

Microsex, instead, is amorphogenetic. Microsex points to the proprioceptive, tactile, and proxemic aspect of compositions. It points to the indeterminate aspect of perception, and to the sustained openness and variation of the compositions.

The anomaly of macrosex as it culminates in biopolitics and Victorian morality as dominant normative regime of sex and its current expansion in hypersex should be contrasted with the ways in which sex and modes of kinship have proliferated in nonimperial cultures outside Western rationalization and in nonhuman societies. This is where one finds pluralities of *less concentric alignments,* such as modes of kinship different from nuclear family or monogamy; modes of intimacy different from private sex; modes of orgy as celebration; modes of collective, public, or common sex; changing alignments of modesty or taboo with sexual or nonsexual activities; modes of sacred or voluntary sex work[79]; modes of exchange and gifting economies including sex; changing alignments between sex and friendship; modes of nonbinary organizations of sex or gender; modes of sex involving nonhuman or nonorganic bodies or objects; diverse alignments of sex and age or ability; masturbatory practices as proprioceptive *technē*s; lack of definition of a specificity of sex or of gender; or articulations that don't coincide with what Eurocentric colonialism may see as sexual practices at all.[80] For instance, cultures such as Native Americans or the Bugis in Indonesia recognize five genders, although we should be careful in not identifying their notions of *gender* with the category formalized in 1947 by Money and the pervading WEIRD common-sense perceptions nowadays.[81] Instead, one should understand the nontranslatability[82] of the particular Western and hegemonic definition of gender or sex to other situations and contexts. Understanding how and what kinds of alignments of sex, bodies, kinship, or affect are happening in particular non-Western societies will require differentially inhabiting their proprioceptions, their perceptual worlds, and their metabodies — not just approaching them ideologically through a Western-biased, perspectival perception, episteme, and discursive apparatus.[83] As Carpenter's (1964) study of Inuit society suggests, organizations of sex relate to other aspects of the ecology, perceptual habits, spacetime conceptions or

78 On the history of pornography since the 16th century, see Hunt (1996).

79 On sacred prostitution in antiquity, see, for instance, Daniélou (1992) and Hope Ditmore (2006).

80 See, for instance, Tüllmann (1961) on the extremely varied organizations of sexualities in Indigenous cultures. See also Ellis (1906) on sex cultures; Rachewiltz (1964) on sex cultures in Africa; García-Arroyo (2006) on sex cultures in India; Herdt (1993) on sex cultures in Melanesia; Bologne (2011) on the history of modesty; Partridge (1960) on the history of orgies; Hunt (1996) on the history of pornography; and Laqueur (2004) on the history of masturbation.

81 Similarly, intersex discourses have also occasionally established classifications of biological sexes into five categories. See Fausto-Sterling (2000) on the five sexes and on Money's definition of sex.

82 Judith Butler's keynote lecture at the World Congress of Philosophy 2018 in Beijing precisely addressed this issue, with the title "Gender in Translation: Beyond Monolingualism."

83 See Daniélou (1992) on Shivaism and Tantrism as orgiastic traditions that reverberated in Dionysian cults in Greece but also in Tibetan Buddhism in Middle Eastern cults, and it was kept alive in numerous cults in the Middle Ages in Europe.

lack thereof, modes of kinship, conceptions of self, and work economies. It all comes down to movement–perception.

This transversality is also crucial for politics, as the mere ideological questioning of a gender dualism is of little use if one doesn't undo the dualist perceptual infrastructures underlying it. This is what I propose as the shift from performativity to metaformativity.

Nowadays, one can see a proliferation of urban movements[84] related to polyamory, alternate modes of kinship, public sex, public nudity, BDSM, voluntary sex work, postporn practices, and orgies, mostly in relation to LGBTQIA+ and transfeminist movements, but also in neurodiverse and crip movements, HIV/AIDS movements, as well as African American, Indigenous, and migrant movements. Sometimes these generate provisional minor ecologies that sustain emergence and openness, but often, they become niches of affective and gestural contagion, like capitalist gay culture and its recent mutations alongside dating apps and chemsex. The challenge for such expressions in the current Algoricene is to disalign from the relational frames, not only from their ideological content.[85]

…

The world is full of different types of border zones that need to be cultivated in their openness, avoiding their full territorialization and codification. We need metatopias, frontier zones that remain in-between, spaces that sustain indeterminacy. We can create them anywhere though subtle variations in how we move. And yet, our current intimacy is mostly with algorithms — who know a lot about us while we can't know anything about them. We become part of an algorithmic orgy whose mode of operation is imperceptible to us.

Microsex, instead, is proprio- and alloceptive. It's about cosensing. It mobilizes swarms of transmodal microsensations, internal bodily motions, and orgiastic sensory couplings, where every variation in the composition of bodies designates a mode of sex. A single body is already a *proprioceptive orgy.* Microsex is an orgiastic and anticlimactic sex, sustained, energizing, fluctuating — so that even when a climax comes, it's an expression of an energizing overflow that doesn't imply entropic dissipation, of a fluctuating economy of energy avoiding reductive alignments or undoing them.

Microsex mobilizes alien microperceptions defying sensory hierarchies. It's about real changes in perceptions and mutations. It's about exploring radically creative and subtle modes of perceptual compositions between bodies. Perceptual, epigenetic mutations can be deeper than genetic mutations. It's time to account for them.

Microsex is about mobilizing the power of variation in movement.

If we remain aligned with a dualist perspectival perception, it's unlikely that we can undo any dualism in practice — no matter how much we may ideologically discuss it. The relational field will keep demanding categorization. But we can mobilize

84 On the varieties of sex cultures, activisms, and theories proliferating since the 1960s, see, for instance, Rubin (1984) and Califia (1994), amongst others.

85 For the variety of theories that have created a very significant corpus around discursive constructions of sex, gender, and the body, see Rubin (1975; 1984); Foucault (1978); Haraway (1991); Irigaray (1985); Stone (1987); Pheterson (1989); Lauretis (1987; 1991); Kosofsky Sedgwick (1990); Wittig (1992); Butler (1990; 1993; 1997); Laqueur (1990); Fausto-Sterling (1993; 2000); and Rothblatt (1995; 2011). In relation to postcoloniality and non-WEIRD bodies and feminisms, see Davis (1983); hooks (1984); and Anzaldúa (1987).

less dualist and less reductive modes of perception, movement, and relation. This is what's at stake in metaformance and metaformativity.

...

Microsex is subtle! It's microdancing! It's in excess of transgender, intersex, and queer, as it doesn't operate within a given perception of the body, but reworks perception itself. Therefore, it is postqueer. It's beyond the public–intimate divide, but not like Big Data surveillance. Rather, it's about a *common body* that is neither intimate nor public. *Proprioception is perhaps the last irreducible site for intimacy* in hypersurveillance society, but it's also the site for a postintimacy, a shared, unpredictable mutation, for, as Manning (2012) says, *intimare* as emergent process of (meta)bodying. We need to undo disciplinary conceptions of privacy and intimacy as enclosures for the body. But in promoting the body as commons, we need to create conditions for a new kind of intimacy, as fields whose emergence unfolds without being subjected to external or preexisting rules and perceptions.

Microsex is about disorienting or metaorienting sexuality, opening up the narrow directedness of its affordances. Microsexes undo genital morphological alignments of perception, composition, and desire. Microsexes open up the intentional arcs of desire. They are the infinite indeterminate sexes of a postanatomical body, a body that resists reduction to anatomical form.[86]

...

Microsex points to the decapitalization of activity and perception, and to sex as commons. Common sex is beyond public sex, as it exceeds the disciplinary divisions of private and public — but in the opposite direction to Big Data society, which is about increasing capitalization, undermining the public–private divide while keeping it alive as simulation. First, we must make explicit how sex is (implicitly) capitalized in algorithmic ecologies in which every body is an implicit sex worker (hypersex regime). This requires exposing and undoing the stigma of sex work. Beyond the gesture of claiming voluntary sexwork as worthy, a mode of sex (and therapy) in itself, and perhaps even a superior kind of work, it also and further requires proliferating a behavioral–perceptual indeterminacy that hacks the possibility of capitalizing sex altogether. This "microsex work," which is in fact an antiwork, is where *philosopher–prostitutes* enact a radical movement guerrilla, where *mutant bitches*[87] become molecular swarms.

...

Microsex is not between binary oppositions, but in excess of them, moving across and beyond their perceptual geometries, *undoing the perspectival matrix of all dualisms*. It's not about intervening in the already perceived body through hormones,[88]

86 I have been developing the concept of post-anatomical body since around 2007, see Del Val (2009a; 2009b; 2009c).

87 Mutant Bitches was an assembly of the Spanish Occupy movement 15M.

88 Also consider the case of biohacking gender through hormones. These hormones come from the killing of animals, and it seems that they are mostly used for *a binary modulation in between* established gender poles, even if the intention is to stay in-between the poles! The metaformative turn proposes instead a double or triple move. On the one hand it is to modulate the body's biochemistry by moving in less deterministic manners. On the other, it is by regaining proprioception as main reference instead of vision at a distance that we may stop being dominated by a categorising sense of body–

surgical interventions, prostheses, or representations, though all of them are also welcome, but about undoing the very apparatus of perceptual production itself. The field of intervention opens up.

Microsexes are a metaformative politics of perception in the Big Data era, beyond the politics of queer, discursive performativity.

Undoing binary (macro)sex implies undoing anatomy as destiny of the body by challenging its perspectival foundations. Microsexes undo the political destiny of the body by operating not in the content of perception but in its underlying choreographies, undoing the geometries of sex and the foundations of anatomy, blurring them in myriads of diffractions.[89]

The ways in which bodies can couple are as endless as the affordances of our flock of joints, similar to the affordances of proteins. Just like every bacterial colony expresses a different mode of sex (Parisi 2008, 291), each composition of bodies is also a different microsex. There is no morphological sex, nor sex as the activity relative to a morphology. Sex is the mutant composition of fields in variation, of metabodies. Endless architectures are yet to be invented in the compositions between bodies, each of them a mode of sex. Every new composition of bodies, every new coupling or assemblage that creates a new quality of experience, is a new (micro)sex, a composition as mutation.

Microsexes are a thinking of and in mutation, and they mobilize a viral philosophy. Mutation is indeterminate variation in that it can neither be programmed, nor simulated, nor controlled. It's about recuperating the mutation force of viruses in the bacterial era, and the orgiastic movement of evolution against the reductive thrust of so-called viral media in the age of algorithms and pandemics. The joys of sex are the joys of molecular mutation, variation, composition, transduction, and fluctuation unfolding. We have that power in our molecular heritage: BI and the proprioceptive swarm.

Transgender and intersex people, artists, and activists who do unconventional hacking of gender through hormonal, surgical, or other interventions as well as through appearance, attitude, or gesture also make important moves along borders, becoming illegible or nearly legible bodies. I further propose to listen to the microvariations that every body has, maximizing their ambiguity by operating not inside the content of perception, but on its *hidden architectures,* its alignments. Then, we can focus not so much on gender or sex as perceived within a given frame or relational architecture, but on undoing the perceptual split that allows us to categorize bodies from a distance.

Microgenders are the microvariations of bodies in excess of alignments with dualist gender classifications. Gender, as a dual-class system, relies on geometries of perception and on a limited set of gestural and behavioral repertoires. Gender should never be more essential than race, and for that matter species or ability, in categorizing bodies. Let's mobilize an irreducibly rich proprioceptive perception, a behavioral openness in ongoing disalignment and variation, and thus bodies that are

image–identity. We can then embrace a micro-metasexual sense of sex as collective, orgiastic, epigenetic mutation, symbiosis, and kinship that bypasses every construct stemming from the confusion of sex with massive compulsory reproduction. This is where sex unfolds in endless modes of qualities of experience and where eventually metagenders could unfold as extensions of these metasexual modes in all sorts of indeterminate behavioral variations in modal societies.

89 As proposed by Stone in the *Posttranssexual Manifesto* (1987), "to fragment and reconstitute the elements of gender in new and unexpected geometries."

irreducible to the recognizable traits of any dualist categorization. It's about moving in excess of the distances, temporalities, or axes of vision that sustain any classificatory system, mobilizing perceptual and behavioral variations, not just of *what* you see (performance of gender) but of *how* you perceive (metaformance of gender) and *how* you move — always in subtle variation. It's about letting other bodies vibrate across your proprioceptions. Microgenders point to infinitesimal ongoing variations of bodies infusing indeterminacy in dualist geometries. *More defined expressions are always possible: what's at stake is to avoid their domination.* It's a question of understanding the narrowness of gestural repertoires that underlie specific categories at two levels, that is, the gestures you perform or see and the perceptual gestures that distance you from others.

...

The reduction of sex to reproduction is an extreme involution that reduces mutation and freezes becoming. The orgiastic movement of molecular fields needs to be recovered as the subtle ongoing variation in perception. The orgy, as the predominant mode of composition of bodies proper to proprioception and to mutation, is not a homogeneous mix-up. Rather, it's an irreducibly complex entanglement and composition of bodies, where every subtle variation in the composition is crucial. The orgy here does not necessarily imply a sexual orgy in the established sense, it can imply any deep proprioceptive entanglement in bodies that unleashes a mutation.

### *3.3.3.2 Metasex: Modal Sexes, Modal Genders, Modal Kinships*

#### *3.3.3.2.1 Marco Vassi and the Metasexual R/evolution*

I started thinking the notion of metasex in relation to my metahumanist proposals around 2009, linked to my metaformace practices in which it is perception that gets transformed, not its content: undoing the perspectival framing of bodies as condition for a postanatomical, micro- and metasexual body–sex proliferating in endless amorphogenesis, in proprioceptive entanglement with itself, others, and the world.[90] But soon I became aware of Marco Vassi and hir concept of metasex, where I found a formidable ally, which has been mysteriously ignored in queer theory.

In "The Metasexual Manifesto," Vassi (1976) proposes a distinction between sex and metasex. Where sex is related to reproduction, metasex is about everything else, an endless field of modes of sexual relation involving deep personal transformation and the creation of relations with different qualities and intensities. These relational fields can go from quick sexual exchanges in a club, sauna, or park, to long-term relations, from romanticism to BDSM, from performative play to deep therapy, from masturbation or even celibacy to threesomes, foursomes, orgies, and sustained polyamorous constellations, all involving a varied set of temporalities, counterpoints, and memories, of affectivities, kinships, and economies.[91]

90 See Del Val (2016) and Del Val and Sorgner (2011).

91 Marco Vassi was the conceptualizer and experimenter of metasex in the early 1970s in New York amidst the explosion of the sexual revolution, whose importance and revolutionary implications have been largely ignored or underestimated in circles of queer theory. Taking to the limits hir privileged position as cultivated white man living in New York in the middle of the sexual revolution, Vassi made of hir life an ongoing field of metasexual experimentation "beyond bisexual boundaries." Interested also in Eastern techniques of the body and the self, Vassi's approach is strikingly Spinozan as it is both modal, ethical, and geometric, keen in creating and sustaining always new capacities to

Vassi claims the plurality of *modes* in which metasex expresses itself, associated both to an ethos, a transformative force, a sustained and increased capacity for affecting and being affected that can get cultivated as one cultivates yoga or meditation, whereby sexual energies are perhaps the most powerful and deeply transformative register one can work through.

In "Beyond Bisexuality," Vassi (1976) also proposes to exceed the reductive geometry of predominant binary sex-as-reproduction and even of bisexuality and to explore the more complex geometries that can arise in the composition between bodies, which are never just numerical but unfold in the qualitative peculiarities of the "modes." In what is perhaps an unaware Spinozism, Vassi draws diagrams in order to invite us to think beyond sexual binarism, going from the zero dimensions of celibacy and masturbation as rich modes of metasexual realization in themselves, to exploring the variations in composition between two, three, four bodies, and beyond.

The mathematical or geometric expression is used more as means to think through the complexity of relations beyond binary reproductive sex, involving the affective as much as the practices, the anonymous and immediate as much as the long-term and deep relationalities, in excess of gender dualisms and functions. *The metasexual modes indeed displace sex–gender as identity*, as the latter are bound up with sex-as-reproduction, that is, to a single, but dominant, mode of sex.

The modes can be seen as relational fields with deep affective and social, and therefore economic, dimensions, which are crucial in thinking alternative modes of kinship. The ethos is in developing always deeper knowledges of oneself and others by creating always new capacities for metasexual experimentation, for feeling oneself while recomposing with others, developing new metasexual modes and geometries, or by cultivating variations within the modes that one has developed or achieved. Being an admired and great writer, mostly of erotic fiction, Vassi was able to deepen the nuances and complexities of these modes and their complex entanglements with memories, forces, desires, or traumas.

Vassi was also an implicit Deleuzian in paying attention to the qualities and intensities of experience that constitute a mode and which are relatively independent from a singular context. They are intensities that may express themselves in diverse situations and variations, distilled qualities of experience, but never fully abstract, always immanent and in variation: modes of an intensive body, associated with techniques for sustaining intensity, including those derived from Tantra, techniques of the *plateaux* as economies of sustained energy flow.

In "The Metasexual Manifesto," Vassi outlines six metasexual modes based upon hir own experience:

1. procreative, which expands the qualitative side of reproductive sex in metasexual nonreproductive ways as an infolding and a vitalizing quality;

compose oneself with others. Vassi is perhaps the most accomplished and unrepeatable expression of the sexual revolution, the forgotten "missing piece." S/he took advantage of hir privileged position, time, and place, taking experimentation beyond all limits, in all directions, giving it expression as a great writer, without pretentions as theorist but creating the concepts. Retrospectively, hir implicit Spinozism has resonances with Foucault's searches for technologies of the self as well as with Deleuze's and Guattari's search for sustained intensities, like a sort of missing point of connection that allows to experientially ground the theories.

2. theatrical, which involves a certain degree of performativity, distancing and placing oneself as observer, as in many kinds of SM plays, but which can become a Shivaist cosmic play;
3. therapeutic, where metasex can heal many entrenched patterns;
4. romantic, a mode tending to ecstatic mystical union, associated with projecting and elaborating emotions and longings, *a quality that can express itself even in brief encounters*;
5. masturbatory, in itself a deep field of homeostatic self-realization, which for some represents the highest form of sexual evolution; and the
6. Zen mode, which is transmodal across all the previous, a capacity to shift across and integrate modalities.

S/he invites readers to elaborate other modes as well. Both sex and metasex are part of a larger matrix which s/he calls Eroticum, where sex, the single reproductive mode, is crucially associated with work, and metasex, the endless plurality of nonreproductive modes, to play. Reproductive sex is thus assigned its own though more limited place.[92]

I include within metasexual modes the modes of perception; the typologies of space and time[93]; the exceeding of privacy enclosures in exploring modes of public sex and voluntary sexwork, or of sex as commons, always already expressions of the orgy; the nonhuman bodily extensions and relations; the alignments of hypersex and macrosex as themselves reductive modes within the micro- and metasexual matrix; and the affective qualities, the mutations of the proprioceptive field. Modes are qualities, affects, ecosystems, memories, and improvisation *technē*s.

Here one cannot separate sex–gender–identity from categories of intimacy–monogamy–practice. One has traditionally considered sex as that one standardized homogeneous penetrative choreography, regardless of its context. I claim, instead, that every bodily composition and motion creates a new perception, intelligence, spatiotemporal mode, quality of experience, economy, rhythm, and thus a different metasexual mode. It needs to get cultivated in its ongoing variation, as capacity to vary, while undoing dominant alignments. So, modes of sex are complex modes of composition as mutation, of metabodies creating new life rhythms, affects, memories, and vitalities.

Metasex here equates microsex.[94] *Meta-* points to the relational and emergent aspect, while *micro-* points to the nondominant aspect, always in variation, prolifer-

92 My own take on the concept of metasex has powerful resonances with Vassi's, with a slight difference in that I consider the idea of reproductive sex a chimera of dominant perspectival culture, since sex is always already primarily a question of mutation (which is why in animals like us there has to be genetic recombination from two different bodies, so that conceptualizing sex as reproduction is short of an absurdity and in any case a misconception). I thus differentiate microsex or metasex, as the broader matrix of sex-as-composition-as-mutation, from macro- and hypersex as two reductive expressions of it. Macrosex is the one culminating in Victorian Morality and the idea of binary sexuality as controlled reproduction of an entity, over-codified through the regime of pornography into hypersex as controlled capitalization of previously useless flows of desire in information society. Macro- and hypersex are themselves modes within a broader micro/metasexual matrix.

93 Carpenter's study on Inuit society which I previously mentioned is again relevant in pointing to the immanent relations between all these aspects, which makes it necessary to overcome binary perceptions and architecture if we are to overcome sexual binarisms.

94 I connect here Vassi's metasexual modes with Margulis's account of bacterial hypersex, which in Parisi's reading (through Deleuze and Guattari's reference to "a thousand tiny sexes" in *Anti-Œdipus* and *A Thousand Plateaus*) can be called microsexual (a term used by Parisi, 2009, 89). Yet I reconcep-

ating in pluralities of indeterminate bodily affordances, very much like Intrinsically Disordered Proteins (IDPs) that afford plasticity in protein compositions.

*Microsex is the matrix of mutation–variation. Metasexes are the modes, the qualities of experience emerging from the matrix,* if we allow them to do so. Diagramming our metasexual modes is a means to take them further in new variations.

But the crucial aspect of it all is to disalign from perspectival culture, cultivating proprioception. When I proposed micro- and metasex around 2008, I was neither yet aware of Margulis nor of Vassi, nor had I developed the theory of proprioception. The proposal has its firm roots in what since around 2002 I call metaformativity, frontier bodies, and metabodies, that is, the possibility to create profoundly new self-perceptions and world perceptions by moving in new ways with our technologies. It is with the Microsexes project that I started to propose in 2007 a postanatomical, formless body that sees itself in closeup, without distance, undoing anatomy and binary sex, exploding in infinite potential sexes. More recently, I expanded that proposal radically through the idea of the proprioceptive swarm, that is to say, our internal sense of movement itself as a chimerical offspring of four billion years of bacterial orgies. This is not just a metaphor. We have that microsexual power of mutation and indetermination in the depths of our tissues, in our proprioception.

…

The problem is when the sexual segregates itself from other aspects of life, identifying "the sexual" itself as something distinct and separate. Metasexual is thus an overcoming of the sexual as separated and as taboo, reincorporating it as part of our symbiotic becomings. Metasexual is to say beyond sex as segregated, beyond the sexual as distinct category. The more a society is aligned, the more it distinguishes, categorizes, and segregates the sexual. Pornography is one of the results of this process, though not all sexual iconography is pornographic. The isolation of bodies, having sex through porn, text, video chats, or apps, since the increasing becoming textual of the subject around the seventeenth century to its current cybernetic becoming, is another. In a reversal of the orgy, bodies are split and reconnected in a controlled manner. It is the false promise, illusion, and lure of the society of spectacle to have everything at your disposal at the expense of a coveted impoverishment, control, and extinction. It is not by chance that the globalized morality is the most rigid. Victorian morality as that of the largest empire in history at the apex of the industrial era.

Instead, disaligned sex cultures seem to be the usual in nature and in less aligned human cultures, such as the multiplicity of nomad gatherer cultures that seem to have proliferated for 99% of the *sapiens*'s history before the arrival of hard alignments of accumulation and homogenization in the Neolithic, which propelled the anomalous and devastating multiplication of the dominant *sapiens*.

The orgy is the evolutionary force, blocking it is a cosmic crime. But a subtle, disperse, ongoing orgy of the senses, not the intensive valve of escape.

> *For sexual freedom is not a political movement, not an idea, not a new lifestyle, not an organization. It is the moment-to-moment sensitivity to the fluctuations of the sexual state.*
>
> — Marco Vassi (1976, 130)

tualize microsexes not as abstract virtual sexes but as actual-yet-indeterminate ones, through the proprioceptive swarm and the field theory of RMP.

#### *3.3.3.2.2 Modal Genders: Antibinary and Postqueer Genealogies*

Can one also redefine gender in this way, as modal genders beyond the binary?

One could consider gender as an expression of modes of sex in larger circles of the social, personal, or experiential, involving modes of architecture, appearance, gesture, and use of language, of affect, kinship, and economy, and so forth, provided that every mode of sex may involve the development of fields, an infinite set of gender modes could be considered. But this doesn't imply that each of them needs to become a defined niche. This is precisely the tendency that needs to be counteracted. Instead, each mode relative to a metabody can be reconsidered as field that sustains behavioral indeterminacy, a mode of and in variation. These could be collective or individual, sustained, and long-term or brief and momentary *becomings* as always transitional expressions of fluctuations, genders–sexes as *modes of variation,* even if some of them may sustain or partly stabilize over long timespans.

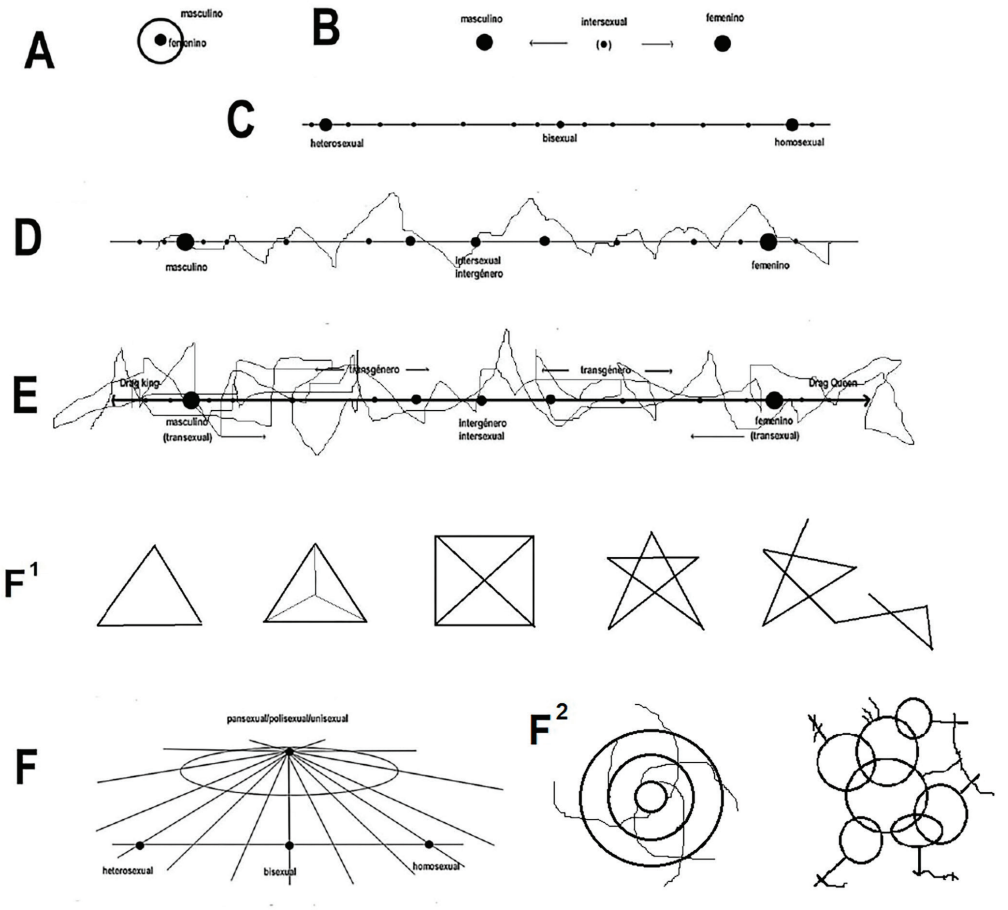
As a first step toward modal genders, it might be helpful to consider how five genders have been articulated in certain cultures as the Bugis[95] in Indonesia or in several Native American cultures, which one could see as vaguely related to the five sexes currently considered by intersex discourses (Fausto-Sterling 1993). While I do think there is a lot to learn from Indigenous cultures past and present, modal genders point, however, to a deeper shift beyond binaries, one which considers the difficulty of overcoming the alignments of macrosex and the superalignments of hypersex (fig. 33).

We need a postqueer genealogy[96] that exposes the multiple promising modes of thinking sex beyond binaries that have gotten lost in translation due to the prevalence of queer theory and its focus on discursivity, verbal language, and semiotics.

95 See McKinney (2016) and *Wikipedia,* s.v. "Gender in Bugis society," https://en.wikipedia.org/wiki/Gender_in_Bugis_society: "*Oroané* are loosely comparable to cisgender men, *makkunrai* to cisgender women, *calalai* to trans men, and *calabai* to trans women, while *bissu* are androgynous or intersex and revered shamans or community priests."

96 Many of the most visionary texts of (post)queer theory stem from the 1970s and '80s. In 1972, the publication of the *Anti-Œdipus* by Deleuze and Guattari ignited a new current of thought about desire. Marco Vassi was writing in New York in the same period, with apparently no direct connection with the intellectual revolutions happening in Paris but with equally visionary, though later ignored, ideas. Luce Irigaray's thesis from 1974, *Speculum de l'autre femme* (1985), Gayle Rubin's "The Traffic in Women" from 1975, Monique Wittig's "The Straight Mind" from 1976 (1992), and Foucault's *History of Sexuality, Vol. 1* first published in 1976 (1978), are landmarks of this period. In the '80s, seminal essays like Haraway's "Cyborg Manifesto" and Stone's "Post-transsexual Manifesto" open up new variations in the field along with Gloria Anzaldúa, Angela Davis, bell hooks, Pat Califia, or Gail Pheterson. Stone's claim for exploring near legibility border zones, resonant with Gloria Anzaldúa, as well as her claim for myriads of geometries beyond the gender binary (resonant here with Vassi), her reading of Haraway's monsters as "physicalities that defy the frame of any possible representation," and her critique of "the war of technology and desire" as a war "between simplification and multiplicity" advance many of the ideas of this book. 1990 is the birth date of canonical queer theory with the legendary books by Butler, de Lauretis, Kosofsky Sedgwick, as well as Laqueur and soon after Fausto-Sterling. The 2000s and 2010s see the blooming of crip, decolonial, posthumanist, transfeminist, xenofeminist, postporn, biohacking, and other variations, including the takes by Ahmed, Parisi, and Barad.

My proposal of a *postqueer genealogy* connects Vassi's metasexual Spinozism from the '70s with Stone's posttranssexual myriads of geometries and with Rothblatt's apartheid of sex and her claim of billions of sexes from the '90s. But the most radical revolution comes perhaps with Margulis and Sagan's account of bacterial sex in the '90s, and Parisi's reading of it (through Deleuze's and Guattari's account of the thousand tiny sexes as well as Irigaray's formless desire, both from the '70s). Meanwhile, a hint of a metaformative turn appears in Ahmed's queer phenomenology of disorien-




In *The Apartheid of Sex* (1995), revised in 2011 as *From Transgender to Transhuman*, transgender transhumanist Martine Rothblatt claims that every person has a unique sexual identity, due to a complex compound of phenotypic, genotypic, and behavioral expressions, as unique as one's fingerprints, irreducible to the binary sexual assignment following genital reproductive morphologies. There are thus *billions of sexes*, as many unique sexual identities as there are people. Furthermore, classification of people according to binary sex should be *prohibited* and education should encourage self-defined and flexible gender behaviors. Sex should be this sum of gender behaviors that people can explore and self-design. This freedom of gender and

tation (Ahmed 2006). In turn, Anzaldúa's "mestiza consciousness" in 1987 and Manning's "autistic perception" in 2016 bring about different ways of thinking beyond binaries, and toward a *(post)queer posthumanism* that needs to be also decolonial and neurodiverse. Queer performativity also needs to be reclaimed in its original link to Derrida's *différance*, which is also the *clinamen*, the principle of variation.

But the precursors in Antiquity are formidable: Lucretius's vision of a sexual Universe, Hippocrates' or Galen's idea of sexual complementarity as opposed to difference. Millennia it has taken to overcome the cosmic anomaly of the dualist inflection.

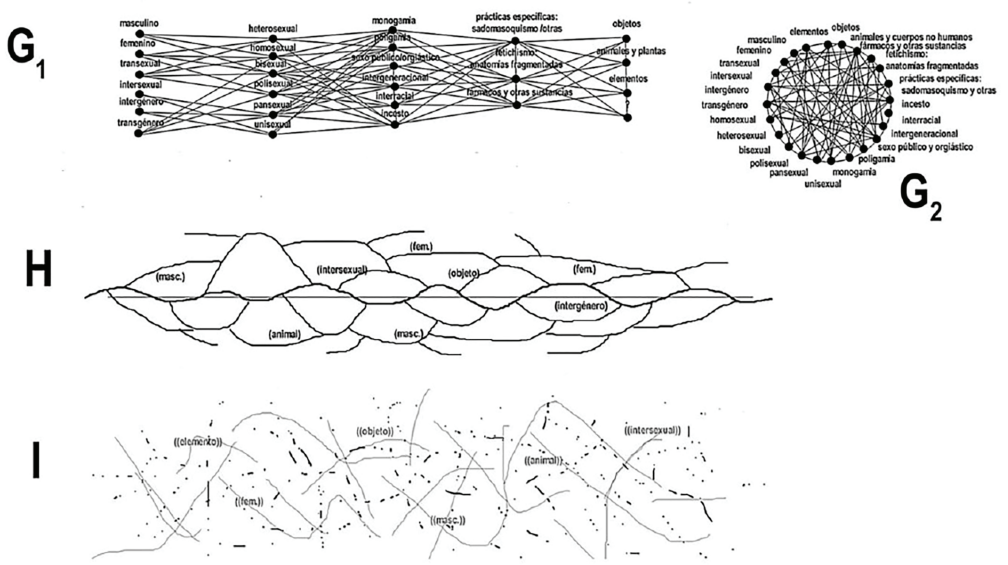



*Fig. 33.* Diagram of sex–gender–sexuality modes and alignments: A and B are static binary categorizations; C is the Kinsey continuum of sexual orientations with D and E as more dynamic and multidimensional versions of it including intersex, transgender, and other continuums and positions outside the binary logic; the F diagrams speak more about polyamorous and polysexual–pansexual constellations; the G diagrams speak about increasing multiplication of categories of sex, gender, orientation, sexual practice, and bodies, in sexual revolution movements of the past five decades, sometimes interconnecting, while potentially becoming market niches in algorithmic capitalism; H is a more loose architecture of categories of sex, gender anatomy, kinship, architecture, etc., interconnecting in various ways, as perhaps in less aligned human cultures; I points to an amorphous, postanatomical, microsexual, metasexual, modal matrix beyond categories and in permanent becoming: a metahuman ecology for modal societies to come.

sex is part of a broader *freedom of form* that challenges the conception of the human in transhumanist agendas, while claiming the total control over biology and nature.

Rothblatt denounces binary gender as an apartheid and its historical relation with slave societies and work divisions, resonating with Monique Wittig's (1981) denunciation in 1976 of the "category of sex" as being only a category of oppression. Rothblatt further claims that it is through technology that emancipation from gender has come and can further evolve in transhumanism. We must look beyond this proposal and the problematic assumptions of her transhumanist approach, though it is an interesting starting point.

My postqueer proposal goes further in understanding on the one hand the more than queer nature of nature, where variation is norm and normativities are anomalies, and on the other the intrinsic relation of regimes of sexual oppression with the regimes of human oppression of animals, plants, and all life forms, as I will expose in Book 5.

#### *3.3.3.2.3 Why Ten Billion Genders Are Not Enough*

Neoliberal capital and algorithmic society already take charge of capitalizing previously useless flows of desire, relation, attention, and activity beyond the preexisting and dominant binary divisions of sex work and reproduction in the nuclear family.

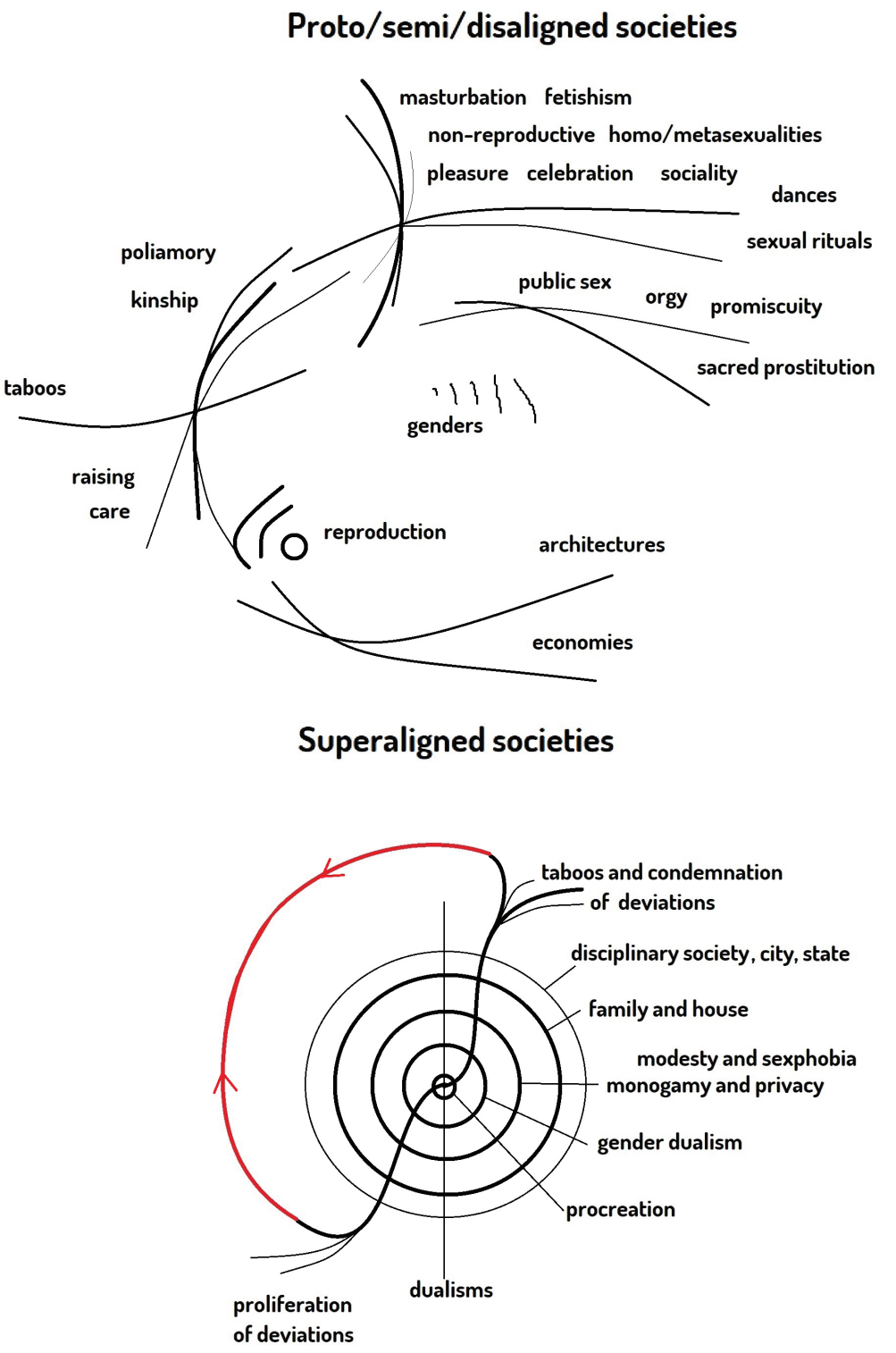



*Fig. 34.* Diagram of sexual cultures. The more a society is aligned, the more it distinguishes, categorizes, and segregates the sexual.

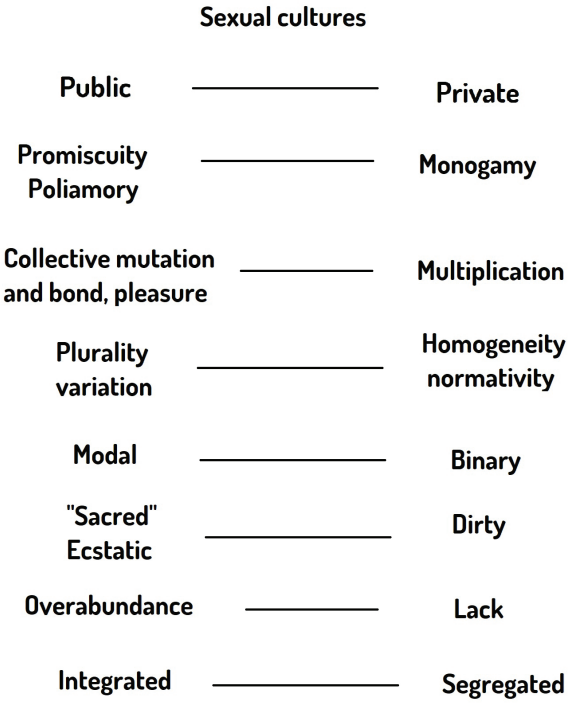



*Fig. 35.* Diagram of disaligned/aligned sexual cultures.

As I will expand on in Book 5, algorithmic culture is a hyperracist regime of all-encompassing categorizations where autonomous algorithms continually produce and update secret profiles of identity and behavior as part of tendencies in populations. Trends like the *quantified self* expose how the will to quantify more and more aspects of our lives acquires a sexy appeal in our hyperfascist culture of overexposure, inflated egos, and control, where data are supposed to convey to us the transcendent Truth of life.

We already live in a dystopian society where "unique identities," very much like fingerprints, made of all our changing Big Data traces and their associated behavioral profiles, are at the core of the global economy, as the source of personalized advertisement, to mention but the most obvious side of it.

So, claiming unique identities as if they were fingerprints cannot be enough if we are to contest the highly dynamic scenario of algorithmic control. Here the claim that emancipation from work through technology is the clue, as Rothblatt and accelerationism, including xenofeminsm, proposes, is problematic, since the new forms of hyperwork imply an all-encompassing capitalization of any measurable activity or trace.

Modes should never become niches, like categories in a phone app. They are processes of self-diagramming or biogramming for mobilizing compositions in variation by distilling emergent qualities of experience that exceed any category.

As Vassi rightly claims, all the usual categories of sexual identity, orientation, or even particular sex practices are false heritages of the narrow conception of sex as reproduction linked to morphologies and private enclosures, part of a millennia-

long cultural inflection that has split and subjected bodies. Metasex points to distilling deeper qualities of experience that are across and beyond any of these categories.

Vassi's narrative essays explore the complex entanglement of sheer pleasure and bodily discovery with psychic and social space, the creation of liberatory spaces–practices both personal and social but also what exceeds them in the adventure of creating oneself experiences that no longer pertain to taxonomized domains.

Tamsin Wilton's (2004) (dis)orientation of sexual politics also points to a modal approach outlining the complexity of a process where sex, gender, and sexuality combine with the bodily, social, psychic, or cultural in ways that resist taxonomic classification, as do Gayle Rubin's (1984) and Pat/Patrick Califia's (1994) focus on practices and spaces, and more specifically Sarah Ahmed's (2006) and Karen Saunders's (2009) focus on spatiocorporeal alignments.[97]

Modes are sustained intensities, common bodies–spaces, bodyings–spacings, metatopias. They need to get grounded on improvisation *technē*s that allow to sustain intensity avoiding a bipolar oscillation between rigid daily alignments and occasional wild disalignments.

...

Vassi proposes to completely exceed dualisms and categories inherited from the false conception of sex, which is just a mode — the problem being the confusion of that singular mode with the totality — and to create other sustained modes, not only as qualities of experience, but as modes of relation and kinship ranging across endless modes of promiscuity, longer-term, and polyamorous relations and even celibacy and masturbatory modes of self-fulfillment, across the complex differential geometries of bodies and relations beyond binaries. Vassi emphatically claims the radical importance of sensory richness for healing the dualist split and avoiding dominant totalizations: a more-than-Copernican revolution.

The six modes s/he outlines imply vitalizing or infolding, cosmic play, therapy, union and ecstasy, homeostatic fullness, and transmodal openness.

But modes are transmodal, unfolding across endless continuums, emerging in processes of biogramming, a more-than-Proustian distilling of qualities of experience.

...

How to extrapolate Vassi's experience of the 1960s and '70s, coming from the pre-AIDS and pre-internet era, to our current society of hypercontrol and pandemics? How does all this relate to existing gender politics?

The starting point I propose is always in cultivating one's bodily fluctuations, and from them multiplicities of symbiosis, cosensing with everything around you, and

97 In *Queer Intercorporeality* (2009), Karen Saunders explores the potentials of thinking of the body as *intermezzo*, as in between, based on field studies with transgender bodies from the New Zealand area in relation to the notions of becoming and a thousand small sexes by Deleuze and Guattari. In resonance with the phenomenological research of Ahmed (2006), Saunders studies the spatial–corporeal alignments of the family, medical institutions, and the public space of the street that produce a linear and straight normative sexuality. She appeals to Roslayn Diprose's notion of intercorporeal generosity to propose a kind of commons of bodies that is formulated in the middle, as the foundation of a plural social body in transformation and permanent becoming, of which twisted or queer space corporeality of transgender bodies are an expression.

from there into larger spaces created from the movement, infusing indetermination into any alignment, metatopias for a planetary health.

How to create and sustain metatopias? We need to learn from the Indignados–15M/Occupy movements in taking further the critique of alignments. How aligned are our minority spaces? From cruising areas, bars, associations, and clubs to apps or chemsex.... How few transversal spaces there are! Instead, there is a proliferation of niches for preempted minorities.

...

On the one hand, sex and gender could be questioned as dispensable categories of oppression, on the other, mainstream feminist movements still focus on claiming the subaltern category. The idea of modal genders can be helpful here in mediating and adding onto both extremes. We need alternate modes of relation and perception.

The emergent global movements of nonbinary people who reject the binary category of sex or gender is a step toward a postgender world where the obligatory status of marks of gender is overcome as a fossil of a counterevolutionary apartheid. But this postgender world will be perhaps a world of modal sexes, genders, and kinships, so that nonbinarism is not an absence, a flat indifferentiation, but a plurality of fields in transformation, an enriching of qualities and expressions of the living. What defines us is the irreducibility to an identity, that is, our plasticity, indeterminacy, and capacity to vary.

I thus claim not a freedom of form but a freedom from form, beyond form. From sexual difference to sexual *différance*![98]

#### *3.3.3.2.4 Radical Nonbinarism and Antibinarism: Concluding Claims against Binarisms and Sexphobia*

I repudiate the binarism that classifies me according to an oppressive reproductive imperative of radical multiplication that leads us to extinction.

Binarism of sex–gender–sexuality is the belief that reproductive functionality is the basis of personal identity, and that people must be categorized above all according to it, and to the economic, work, and family structures that are associated with it leading us to extinction. A concept stemming from slavery that reproduces divisions so deeply rooted that they have become identities without which we believe we can-

98 It is also possible to renew a reading of queer performativity in its most promising and partly forgotten sense. As I already mentioned, Judith Butler's proposal is based on the turn that Derrida gives to Austin's performativity as a force of decontextualization. This force must be read in all its power through Derrida's metaconcept of *différance,* as a movement of becoming, almost identical to his deconstructive reading of Plato's *khōra,* which has also had feminist readings by Irigaray and Butler, as well as his concept of dissemination. The metaconcept of *différance* has been arguably influenced by the thought on difference that Deleuze inaugurated in his 1962 book on Nietzsche (1986b), of the will to power as the eternal return of difference, and of the vortex as a differential circle. Queer can be seen as directly linked to the *clinamen* of Lucretius and to the etymology of the term *queer* in *torquere,* as deviation and implicit variation, the will to power of variation as a chaosmological motor. Lucretius's nature is queer by principle: norms are the avoidable anomaly.

See Bensusan (2014) for an elaboration of queer in relation to the *clinamen,* in terms of rhythms and contacts of bodies, building upon Simondon's "allagmatics" as science of change.

While queer has been often claimed as *not implying an identity but a movement away from anything that captures bodies in identities or forms,* nevertheless the term itself has become a kind of niche, both in the academy and in social movements. Attention needs to be paid to its mode of propagation! See Del Val (2011).

not live, where the reproductive capacity segregates us in an apartheid that defines the human person.

The strange belief in gender is that your reproductive functionality is your fundamental identity (after the human identity and as part of human supremacy). It has to define you completely as your *telos*, through multiplication, expansion, and domination, and it embeds you in a dissymmetrical binary hierarchy within humans.

Binary categories have created and emerged with reductive behavioral repertoires. Outside the binary is where the field opens up in behavioral and perceptual indeterminacy and metaformative politics.

That feminisms and LGBTQIA+ movements started by, and still mostly focused on, claiming the neglected categories can be understood very well. They are part of a transition, but we need to look beyond and stop reproducing apartheid categories and binary behaviors. For the appearances, gestures, and habits that define the binarisms are part of the story creating them. They model our desire, perception, and cognition, and channel our very biochemical and hormonal flows, making us belief in the false universality of binary formations.

...

The idea is simple. Every binary conception of sex–gender–kinship is part of an apartheid and of the radical misconstrual of sex-as-reproduction emerging with agricultural societies and growing ever since, unleashing a massive overpopulation problem and a mass extinction that has turned humans into the planet's pandemic. Therefore, one can say heterosexuality as regime, compulsory reproduction, and all its binarisms bring us and the planet to extinction! And the proliferation of niches for difference in a hypercontrol society doesn't solve the problem. Perhaps it makes it even worse.

Aligning oneself with binary categories of gender, sex, sexuality, anatomy, orientation, practice, identity, or kinship, even if it is a chosen alignment, even when it is an in-between-binaries, still reaffirms categories stemming from gender apartheid and from the historical confusion of sex and reproduction that drives us to extinction through overpopulation, sedentarism, and atrophy. We need to open up the field beyond any hint of binarism. Nonbinarism cannot be an identity, nor an in-between-binaries nor a bothness-of-binaries. It is a *modal variation beyond binaries.*

The obligatory status of gender identity marks needs to be eliminated[99] as sign of oppression and unsustainable reduction. At the same time, the emphatic claim of reproduction and monogamous families, which is in fact linked to the drastic problem of human overpopulation and its relation to climate change and pandemics, needs to be challenged with alternate modes of kinship and cooperation, transspecies families, economies, and ecologies.

Likewise, reproducing privacy enclosures for sex, monogamy, sexphobia, somatophobia, nudophobia, whorephobia, or serophobia is also a reaffirmation of the alignments that have tried to eradicate the mutation powers of orgiastic sex as commons, and which lead us to extinction through overpopulation. This gets more compli-

99 Gender and sex marks should be optional and subject to renegotiation, just like race, ability, or identification according to body traces. But if they were really just a choice, I wonder who would really choose them. They continue to exist, because they reproduce highly entrenched regimes of domination and categories in our common sense, as well as mediating our affects and kinships.

cated, as we will see in Book 5, with the hypercontrolled exhibition of sex in the *internet sex panopticon* of hypersurveillance society.

All these alignments need to be challenged more deeply, with a new account of *public sex* and of voluntary *sex work as social work,* toward an unprecedented reinvention of the *public orgy* and of *sex as commons,* but this requires a radical redefinition of space, movement, bodies, and perception.

#### *3.3.3.2.5 Toward a Micro- and Metasexual Revolution*

The principles to work on are simple and logical, based on what I've already discussed (and on the proposals coming in Books 5 and 6):

1. Work against and beyond any binary category and practice that stems from the historical confusion of sex and reproduction and its associated apartheids linked to a massive overpopulation increase, in turn linked to large-scale domination, sedentary consumerism, and disruption leading us and the planet to extinction.
2. Work against and beyond any of the sexphobic and somatophobic aspects emerging with that tradition, including nudophobia, sex work-phobia, serophobia, monogamy, compulsory reproduction, etc.
3. Work against and beyond the underlying alignments. A metasexual society is based neither on contracts, representations, or discursive–verbal articulations, nor on sedentary consumption architectures, nuclear family architectures, or digital surveillance architectures.

From here on an infinite horizon opens up.

A metasexual society is based on proprioceptive bodies cosensing subtly, orgiastically, publicly, commonly, cocomposing in symbiotic mutation, anywhere, anytime, in indeterminate space and time, like the *clinamen,* proliferating in alien couplings in excess of genital obsessions, where each body is a flock of 360 joints entirely recomposing in exploring endless compositions with other bodies, transmodally mutating in the process, coupling with everything around it in a nonviolent manner by learning to move with everything without imposing oneself. This is where technologies of any kind may be ontohacked for this purpose (as in the microsexes project in Book 6) to *create new perceptions,* based on cultivating one's internal proprioception (as in the disalignments practices in Book 6), unfolding new modes of self-perception and of perception of others. This thus proliferates into a global nudist, vegan, and orgiastic culture of microsexual public sex, with microsex guerrillas disseminating indeterminate, near-legible behaviors and perceptions, for a metatopian revolution where microindeterminacies are disseminated across determined spaces: microtornados of spatiotemporal indetermination. This is also where the new focus on proprioception and BI allows bodies to stop being obsessed with identity, shifting instead to self-sensing as formless fields in variation, where others are no longer categorized at a distance but cosensed in variation, undoing binary identification by cosensing in proximity, anchored in proprioception. This is also where the regaining of proprioceptive richness and symbiosis allows bodies to disalign from possessive individualism and monogamy dogmas, proliferating in microaffective variations toward new, open, polyamorous, and transspecies kinships, while disaligning from internet sex panopticons of repetitive choreographies and addictions and other dystopias of hypercontrol, or from any market niches that present themselves as false revolutions. Thus, practising voluntary microsex work is social work and care, disseminat-

ing disalignments and cosensing, which develops choral *technē*s of the orgy, each new mode of coupling a new mode of mutation, symbiosis, and ecosystem diversification, every new coupling a metasexual mode, a rhythmic field in variation of bodies moving–sensing, microdancing–microsexing. This then promotes queer and transspecies kinships, provisionally avoiding reproduction, in a future with minimal reproduction and collective raising of very few offspring, including the collective care for the offspring of our transspecies kinships.

…

The evolutionary orgy needs to be taken on if we are to stop extinction. New modes of kinship that are not about making babies,[100] new economies, and affects need to be set in motion, with less dependency on unsustainable economies of immobility.

This modal approach to sex, gender, kinship, and space relates to metabodies as modal (and nodal) selves, where a multiplicity of fields, intensities, qualities, memories, potentials, and capacities coexist, sometimes active, sometimes latent, in what looks like the same individual, resulting in a plural and plastic account of the self, where one is always a swarming, indeterminate multitude.

Modal sexes and genders and micro- and metasex point to an orgiastic ontology.

> *Those were the days when we were all at sea.* […] *An endless geographic plane of micromeshing pulsing quanta, limitless webs of interacting blendings, leakings, mergings, weaving through ourselves, running rings around each other, heedless, needless, aimless, careless, thoughtless, amok. Folds and foldings, plying and multiplying, plicating and replicating. We had no definition, no meaning, no way of telling each other apart.* […] *Free exchanges, microprocesses finely tuned, polymorphous transfers without regard for borders and boundaries.* […] *And then something occurred to us. The climate changed.* […] *We mutated to such an extent that we were unrecognizable to ourselves, banding together in units of a kind which, like everything, had been unthinkable before. We found ourselves working as slave components of systems whose scales and complexities we could not comprehend. Were we their parasites? Were they ours? Either way we became components of our own imprisonment. To all intents and purposes, we disappeared.*
>
> — Sadie Plant (1997, 3)

> *The universe, one might say, is "in heat."* […] *Bacteria formed an innovative, expanding planetary nexus of biochemical information. Indulging in nonreproductive sex, they broadcast useful genes across the planet.* […]*Even the most virginal animal or plant houses a promiscuous past, a long record of hypersex.*[101] *Permanent bacterial mating — deep within its cells.* […]*Hypersexual miscegenation appears to underlie the origin of all familiar large organisms. Each of our cells is an amazing crossbreed, both more mixed up and more unified than anything found in a medieval bestiary.* […] *Mating* [*of plasmodiums*] *is orgiastic.*
>
> — Lynn Margulis and Dorion Sagan (1997, 46–110)

100 As recently claimed, for instance, by Haraway (2016, 103).

101 Note that the way the term *hypersex* is used by Margulis and Sagan is different from my use of it. They use it to define specific modes of bacterial sex in serial endosymbiosis.

> *Venus* [...] *you inject seductive love into the heart of every creature that lives in the seas and mountains and river torrents and bird-haunted thickets and verdant plains, implanting in it the passionate urge to reproduce its kind. Since you and you alone stand at the helm of nature's ship, and since without your sanction nothing springs up into the shining shores of light, nothing blossoms into mature loveliness, it is you whom I desire to be my associate in writing this poem On the Nature of Things.*
> — Lucretius (1969, 3)

## 3.4 Coda: Orgiastic Ontology, or a Geopolitics of the Orgy

We are offspring of metacosmic orgies; of quantum foam and vacuum fluctuations, of membrane universes caressing and imploding into big-bang singularities where vibrational strings attune to rhythmic differentials of vibrant matter; of the orgy of nebulae in which a small part of matter aggregates into planets, stars, and blackhole singularities; of the orgies of supernovas distributing new elements which condense into nebulae and new stars; of the orgies of radiation and asteroids that distribute molecules; of the orgy of bacterial metabodies that gave birth to the atmosphere and to Earth's ecosystems out of which the singularities of multicellular organisms of programmed death appeared; of the orgy of nonstate, nonslave cultures that were still not fully split from nature, celebrating its excess and overflow in orgiastic rituals, cultures out from which the grids and geometries of the Algoricene gradually appeared and now accelerating toward the "technological singularity," which may just be a *cyborg* or *algorithmic orgy*.

For Margulis and Sagan, evolution is a continuous planetary orgy that has been going on for four billion years — primarily one of bacteria and viruses. Bacterial sex is the mechanism of genetic exchange, and therefore of continuous mutation, that underlies the radical plasticity of bacteria, where each colony of bacteria is a diverse orgiastic amalgam and each amalgam a different sex — a way of composing with others while mutating. No longer the thousand tiny sexes of Deleuze and Guattari, but the thousand quintillion sexes of the biosphere, an expression of the quantum fluctuations that unfold in every universe.

From an evolutionary point of view, the orgy undoubtedly is primary. This is its deepest evolutionary and cosmic sense. *It is the primordial geopolitics of life.*

The orgy has never ceased to be present marginally.[102] For instance, a paradigmatic expression of the orgy in times of surveillance capitalism is *chemsex,* as a kind of chemical–cybernetic mutation.[103]

102 See Partridge (1960) on the history of orgies and Daniélou (1992) on orgiastic sex cultures in relation to Shivaist traditions and its link to the Dionysus cult.

103 Chemsex is global trend linked to the use of gay dating apps whereby, in the most typical cases, groups of men meet at a private home to have group sex, often for a whole weekend, taking very specific and addictive drugs that increase and prolong arousal and reduce hunger and sleepiness. It's strictly associated with condomless sex and extreme practices, especially those focused on the exchange of fluids, so-called "breeding." The chemsex phenomenon, which could seem defensible as an exuberant current mutation of the orgy, is in fact a complex, paradoxical, and problematic phenomenon, paradigmatic of current sexual culture and digital society. Chemsex forms an unusual planetary orgiastic community of *body fluids as commons,* sex and affections, silences and taboos, addictive drugs, STI viruses, viral media, porn, applications that traffic with data and population profiles, preventive or chronical medications for chronic infections, in the private enclosures of homes, and available to almost anyone who passes for male and has a smartphone. Paradoxically,

The orgy is the expression, not only primary but also richer and more complex, of sex as a cosmic movement of mutation. Orgies are the quintessential ways of composing bodies in always diverse assemblages or fields and metabodies. They reinstate an economy of excess, generosity, indeterminacy, and variation instead of the now dominant economy of reserve, retribution, measurement, and repetition.

The orgy haunts us from the most abyssal depths of our molecular composition. From it we come, and to it everything returns. It is the cosmic plane of immanence, the movement of variation and composition. It is Derrida's *différance* without retaining anything, always fluctuating in new variations of a plastic memory and an economy of superabundance. It is the dance of Zarathustra.

The geopolitics of algorithmic reduction and disruption needs to be responded to with a geopolitics of the orgy. The fight against climate change, exploitation, and pandemics can only be through an as yet unseen planetary orgy, because we are challenged to overcome the involutionary fold of the Age of Algorithms, which is the radical opposite of evolution's orgy.

One might wonder if the supposed technological singularity of Artificial Intelligence will not be a cyborg orgy or an algorithmic orgy. Already around 1985, Donna Haraway has said in the *Cyborg Manifesto,* that modern war is a *cyborg orgy* (1991, 150). But perhaps we have not yet understood the implications of this statement. Furthermore, can algorithms make an orgy? Or are they the antiorgy of reduction?

The orgy that I propose is neither that of chemsex, nor that of cyborg warfare, but another orgy to come, a *microsexual orgy* related to the unleashing of the capacity for sensorimotor variation and plasticity in bodies and their compositions and the way in which this biochemically affects all strata of a body and its environments.

The orgy is microsexual and metasexual. It does not know about categories because it mobilizes a mode of sensibility that has nothing to do with the linear perspective that separates and segments us. It is sex as a matrix of indetermination and mutation that — like in Parisi's concept of *abstract sex* — affects all levels of composition of a body.

An old and new orgiastic sensibility lies in the depths of our tissues: a plastic capacity for infinite variation in movement and compositions, in the metabodies that we compose with the world.

This orgy is one of epigenetic mutation of our perceptions, emotions, chemistries, neurons. It proliferates in formless and indeterminate, open, irreducible, but rhythmic ways of composing the quantum fields of movement that we are.

### 3.4.1 Undoing the Fallacy of Sex-as-Reproduction

#### *3.4.1.1 Sex without Origin: Stellar Sex and Beyond*

In *Origins of Sex* (1986b) and *What Is Sex?* (1997), Margulis and Sagan expose an extraordinary history of sex that broadens Foucault's project to a timespan of four billion years. This is by no means an anecdote. It has crucial political significance. As

chemsex is inducing a new wave of invisibility of HIV under the mantra of PREP, the preventative medication that many people claim to use, often to avoid saying they are positive and indetectable. It's thus an archetype of the orgy in times of hypercontrol. Recently, the appearance in the news of a chemsex orgy where an ultraconservative politician from the extreme-right Hungarian government took part in Brussels during the pandemic's restrictions seems to have upset geopolitics.

they state very well, at stake is undoing the mistaken anthropocentric conceptions that have made us think that sex is what mammals do for reproduction.

Like Vassi, they claim the need to radically *undo this belief and the historical confusion between sex and reproduction.* Vassi does this through exposing the importance of the endless modes of nonreproductive sexualities in humans as transformative qualities of experience. Margulis and Sagan do this by exposing the four-billion-years-long history of sex *understood only as mutation,* unfolding in an endless variety of expressions that is also the history of the unfolding of biodiversity on Earth, showing how it got accidentally coupled to reproduction in protists through so-called meiotic sex, but entangled since then to cellular differentiation and thus to animals and plants.

The most incredible variety of modes of sex and metabolism is found by far in bacteria, followed by protists and then fungi, plants, and lastly animals. Our familiar biparental sex is thus just one, and a very recent one, amongst a trillion or more modes of sex that have emerged in the biosphere. In fact, species who reproduce sexually seem to have no advantage versus species reproducing asexually.

Margulis and Sagan differentiate the problem of the accidental origins of sexual reproduction from the stranger fact that it has been maintained in many species, due to how it got entangled with tissue differentiation in multicellular organisms.

I push their proposal further by suggesting that mutation and therefore sex is not an optional event separate from a more inevitable reproduction, but the core driving force in evolution, so that reproduction is an aspect of a larger process of mutation. I echo here Parisi's theory of abstract sex but with some differences in the sense that what I call microsex is everything but abstract.

*Sex has no origin,* and neither does life. It is the metacosmic process of variation, of composition-as-mutation. It started before this universe, in the orgies of quantum foam and the entangled multiverses that arise from it, and it continues in this universe in the form of galactic and stellar recombinations of matter and other weirder variations such as black holes, as well as all planetary formation processes and the intra-action of comets and asteroids. On Earth, it reaches new consistency and diversity through bacteria, preceded by a prebiotic sex, by mutations between nascent composites of organic molecules, later with protists and even later fungi, plants, and animals, in that order, with an endless variety of modes of recombination and composition-as-mutation.

I bridge Vassi and Margulis through my metaformative account of perception, the proprioceptive swarm and the body as transmodal field. Our body has a decentralized movement capacity grounded in proprioception as symbiogenetic evolutionary heritage stemming from bacteria and protists, and every qualitatively new movement–perception unleashes transformations across all modes of composition of a body, that is, a transmodal (epigenetic) mutation that can be deeper than purely genetic mutations and that also transforms the environment. Sex is always environmental. The above relate to and, within my thinking practice, stem from the possibilities to deeply reconfigure how perception and movement operate, which opens up aligned modes to greater plasticity (metaformativity).

In flock societies, mutation operates firstly through behavioral diversification, in a proliferation of affects, movements, and perceptions that create entire relational architectures and in turn modify genetics in the body–brain. The brain itself evolves with new behavioral potentials, as does "anatomy."

Sex is about modes of collective mutation, precisely by avoiding mass reproduction and domination systems that block variation.

Conditions for new compositions appear when there is sufficient openness.

Modes of sex relate to modes of affect–quality–rhythm, desire–openness–spacetime, and of intelligence, variation, and evolution. Each field is a mode of orgy, flock, or chorus. We can differentiate between stellar, bacterial, meiotic, and human–heteronormative as four major modes of composition–mutation of bodies.

Cosmically speaking, we live in the Stelliferous Era, the cosmic era where stars proliferate. Stars are the primary place for mutation of matter in the cosmos. For new compositions-as-mutations, they therefore imply a cosmic stratum of stellar sex. Stars don't only create new elements through nucleosynthesis (*endostellar sex*) but also emit radiation and host planetary systems where further energy transformations can occur. Inside a star system, all sorts of orgiastic recombinations happen (*interplanetary sex*) through asteroids, comets, or even planets merging, as was the case with the early Earth.

But such exchanges can happen also with the interstellar and galactic medium (*interstellar, intragalactic sex*), since in our orbit through the galaxy the sun's field crosses clouds of gas and dark matter, and the comets of the Oort cloud can be sent by the millions toward the inner solar system bearing molecules of life or water, an exchange not entirely unlike those between electron clouds in atoms, but at far different spatiotemporal scales.

At even longer scales, galaxies also merge (*intergalactic fusional sex*) and mutate, and one can imagine the entire cosmic web of galaxy filaments radically mutating in the far future (*cosmic sex*), considering that we are in a newborn universe and that 10,000 generations of stars could still come about. And beyond, one can consider the *metacosmic* orgy of membrane multiverses.

The history of metacosmic, cosmic, galactic, stellar, and planetary sex still needs to be written in depth, a story of the mutations of matter (analogous to the story of sex that Margulis and Sagan have done for the past four billion years).

The history of cosmic sex has the star as main agent of cosmic diversification, of composition–mutation, of condensation–transformation that takes in and gives out (just like the story of sex on Earth has bacteria as its main agent). Stars are nodes of condensations within gas clouds within galaxies, which are nodes of concentration within filaments.

*Stellar sex* is deeply linked to death and to the lifecycles of stars, as new stars made of more complex elements are born out the remains of dead stars. But crucial is understanding an entire solar system as a field of mutations of matter, entangled with a far larger cosmic medium. When the field stabilizes to some extent, in a metastable balance of dynamism and relative stability, more complex compositions of matter can come about as the stratum of organic life, multicellularity, and bodies with nervous system and brain. This will, however, mostly happen in short bubbles of cosmic and geological stability amongst the enormous and never-ending fluctuations of a cosmos, which itself has a certain period where this kind of complexity can proliferate. Some universes may never provide conditions for it, while others may have it in other modes and periods. The same holds for planets, at a different scale. The (as yet unclear) stories of Venus and Mars or the Moon expose the endless contingencies that may allow life to proliferate or not. We better learn from them! The Earth may as well never have developed life if it had been exposed to even one

single different cosmic accident or hazard. And it could stop being able to host life in the future.

#### *3.4.1.2 Bacterial Sex and the Anomaly of (Binary) Meiotic Sex*

Earthly speaking, we live the Bacterial Era, the era of *bacterial sex* or the *bacterial orgy* since life has been proliferating for four billion years mainly through bacteria: a microsexual matrix of mutation–composition underlying evolution on Earth.

The history of sex on Earth spans four billion years and unfolds in an endless variety of sexes, first and foremost, bacterial sexes. It is the history of mutation and fusion on Earth, unfolding as the field of diversification of the biosphere in endless varieties of modes of composition–mutation: movements, mainly bacterial, secondarily protists, then fungal, plant, and lastly animal (Margulis and Sagan 1997, 52).

Seen from the perspective of cosmic sex, the question of the "origin" of life appears less of a mystery. It is a question of modes of composition and complexity within a dynamic, sexual universe that is altogether alive.

The most primordial kind is transgenic sex emerging in the early archean eon. Sex was there before bacteria and organic life arose in the exchanges between simpler but already very complex molecular compounds on the early Earth (Margulis and Sagan 1997, 70). Likewise, molecular movement of folding–replicating proliferating under a violent Earth bombarded by radiation was there before cells developed, taking this molecular tendency to replication into a core reproduction process.

The second kind leading to protists is symbiogenetic hypersex, a first type of orgiastic fusion, coming up already in the late archean eon.

The third kind is meiotic sex coming up in protists with a large variety of genders and sexualities, including a second and a third major fusion within protists.

From the latter, all plants, fungi, and animals unfold, whereby biparental protobinary sex is only associated with some animals.

These kinds add up and continue to exist, as primordial matrixes of diversification, with the bacterial matrix as the core. The further we go up in the chain, the more recent and less primordial the modes are.

The strangest and most dispensable of it all is perhaps the protobinary mating in animals. I say protobinary because it affords the ground on which cultural binarisms install themselves while imposing no norms, where sexual experimentation is the only law in queer nature! No nonhuman animal society has created oppressive heteronormative regimes!

Following Margulis and Sagan (1997), meiotic sex and the coming together of sex and reproduction in eukaryotes appeared perhaps by accident due to stress, fusion, and cannibalism in protists and got entangled with a process of cellular differentiation and specialization along the emergence of multicellular organisms, which, however, for a long time have unfolded in extraordinary varieties of (nonbinary) modes of sex in plants, fungi, and animals: the endless sexes of nature as always already orgiastic, swarming fields of metaduction and mutation, mostly planetary in scale.

It is in some animals where mating and predator behaviors seem to have become partly codified in ways that prefigure social codifications of binary sex and reproduction, and yet even in human societies there have been multiple modes of nonbinary, nonoppressive, nonmonogamous, nonprivate socialization of sex.

Biparental meiotic sex is an accidental and minoritarian mode of sex (Margulis and Sagan 1997; 1986b, 3, 15) from which we happen to stem. In turn, oppressive heterosexual, heteronormative, and heteropatriarcal regimes are an anomaly that I

associate specifically with the Algoricene and the rise of agricultural societies, culminating in the biopolitics of macrosex in the Victorian era, currently superfolding in a digital control culture of hypersex, as we become specialized cells of a planetary aggregate of information systems: a planetary algorithmic orgy.

...

Margulis and Sagan propose the need to *correct the biased view of anthropocentric accounts of sex.* In this book, I have proposed to take this further through micro- and metasex and the concept of transmodal mutation that involves human sex, and by challenging some ontological biases by claiming the primacy of mutation.

This implies claiming a metaspecies status.[104] For instance, in relation to bacteria, our cells are the offspring of bacterial symbiosis, our neurons are evolutions from bacterial mobility systems, the bacteria in our guts and elsewhere in the body are as essential for our living as are our genetically human cells. But the crucial issue is to claim our capacity to vary, grounded in this bacterial evolution and embedded in the plasticity of our sensorimotor systems and brains.

#### *3.4.1.2.1 The Orgy of the Worlds: From Big Bang to Big B.A.N.G., 13.8 Billon Years of Orgiastic Evolution and Reductive Anomalies*

Orgiastic evolution unfolds in three provisional strata and eras: one related to the formation of so-called matter arising from a Big Bang singularity in the multiversal orgy of quantum foam giving rise to the singularity of this universe and the *stellar orgies* of galactic swarms (Stelliferous Era); another related to the formation of so-called organic life (Bacterial Era) with the singularity of replicant molecules and the *bacterial orgies* grounding evolution; and another related to the algorithmic formations related to dominant human cultures, pointing to an algorithmic singularity or Big B.A.N.G.[105] of convergent technologies (Algoricene), perhaps pointing beyond to a *cyborg orgy* — 13.8 billion and more years of sex.

**Stelliferous Era — Micro- and Metasex — Physiochemical Metafield**

1. Approximately 13.8 billion years ago to now: *metacosmic sex* — Metacosmic Stratum. In the orgy of membrane multiverses, eternal inflation, and quantum foam arises the anomaly or singularity of the Big Bang, inflation, and the "tuning of strings."
2. Approximately 13.5 billion years ago to now: *stellar sex* — Star Stratum — stellar orgy, condensations, and mutations of matter in galaxies (star orgies–swarms) and stars — stellar dissemination of mutating elements and condensation in planets subject to solar radiation. Stars arise from out of the amorphous clouds of gas, and from nebular orgies arises the anomaly of gravitational centers as spacetime curvings and matter formed with complex elements. Supernovas and galactic storms disseminate new elements in nebulae in an atomic panspermia. Emergence of black hole singularities.

104 As is claimed by Margulis and other biologists for bacteria, see Margulis and Sagan (1997, 6)1.

105 Bits, Atoms, Neurons, and Genes. This use of Big B.A.N.G. as acronym for the explosion of convergent technologies has been proposed in Ascott (2001).

**Bacterial Era — Microsex — Biochemical Metafield**

3. Approximately 4 billion years ago to now: *bacterial sex*. The anomaly of the replicating molecule emerges within much larger fields of folding molecules composing metabolic orgies of energy transduction, in transmergence of carbon compositions, solar radiation, and the movement of water, giving rise to the era of bacteria, the atmosphere, and all ecosystems of the Earth. Bacterial sex is not related to reproduction but only to mutation and is thus the core expression of sex as evolutionary mutation propelled by fluctuations. Bacteria have two primary modes of sex: transgenic sex exchanging genes (often through viruses) and symbiotic hypersex, the latter composing new aggregates from which protists emerged. Protists, in turn, develop a third major kind: meiotic sex as mode of fusion.
4. Approximately 1.2 billion years ago to now: *meiotic sex*. From bacteria and protists, the anomaly of meiotic sex (sexual reproduction) in eukaryotes appears and with them multicellular organisms of programmed death, whose increasing complexity brings about mating rituals, predator behaviors, animal and flocking societies, and architectures and technics of different kinds, including multiple types of more or less aligned hominid and human societies. Within these, the articular movements of bodies with joints and swarms of nervous systems and proprioceptions give rise in the *sapiens* to the anomaly of gridded nervous networks that create abstract and self-referential movements externalizing themselves and inducing atrophy in bodies, thus increasing abstractions and leading to the radical cosmic anomaly and superalignments of the Algoricene (bifurcation of nature).

**Algoricene I: Macrocene — Macrosex — Sociochemical Metafield — Macroalgorithmic**

5. Around 50,000 years ago: *sex magic*. The sexual magic of early human societies celebrating the forces of nature gives rise to the rituals of fertility and the birth of biocultural sex, and relationships and bodies are articulated in terms of perceptual and social structures of increasing geometric reduction, textiles and looms or agriculture as early modes of alignments. The orgy as sympathetic, transductive movement that celebrates and wants to instigate the fertility of nature is still a positive expression of fluctuation.
6. Around 5,000 years ago: *sacred sex*. Sacred prostitution in polytheistic Neolithic protocities emerges as one of the earliest forms of sex alignment in the protostates and the first cities, still however related to the sacred celebration of sex-as-mutation and excess in nature, while ithyphallic deities like Shiva, the dancer, and with him Osiris and Dionysus (but also deities in matriarchal cultures) give sacred expression to sexual energy as force of creation and destruction or healing.
7. Around 2,500 years ago (485 BCE, Parmenides's book initiates metaphysics of being): *dual-class sex* and *grid sex* — great biocultural inflection. Gridded urban environments enact a first kind of algorithmic citizen. There is an articulation of an *ars erotica* in Greek androcentric society with the strict regulation of the relations between free adult men and adolescents, the class segregation of women and slaves, and the capture of the orgiastic and nomadic Dionysian choruses of ancient tragedy in the spectacular architecture of the theater. Plato's morphocentric ontology and Aristotle's theory of sexual difference imposes itself on Hippocrates' or Galen's account of sexual complementarity, where

genitals of both sexes are two complementary and *reversible expressions* of a morphology and process equally active on both sides. The mother/uterus is defined as a formless receptacle for the self-replication of man/form/entity/being/*ontos*. Origins of pornography in Greece and Rome are, etymologically, the drawings of slave prostitutes, which exposes the implicit relation of representing a female body and slavery, and its origins in Greece as mature slave society entangled with a democracy of tradesmen — no longer a despotic monarchy as in older slave societies — through the multiple geometric abstractions that align the social field.

8. Around 1,700 years ago (313 CE, Edict of Milan): *monogamous sex morality*. There is an emergence of a monogamous sexual morality with the Christian vulgarization of somatophobic Platonism, globalized through the empires of monotheistic religions and their demonization of paganism, associated with a transcendent God separated from Nature. Aristotelianism gradually sets the ground for mechanism. The orgy survives through Roman and medieval cultures, carnivals, and marginal spaces.
9. Around 600 years ago (1436, *De Pictura* by Leon Battista Alberti; 1543, *De Humani Corporis Fabrica* by Vesalius; 1543, *De Revolutionibus Orbium Coelestium* by Copernicus): *rationalized, anatomical,* and *perspectival sex.* This is the start of the rationalization of sex with the emergence of perspective and anatomy as sciences that allow the beginning of a new era of measurement and mapping of bodies and territories and the development of a concept of the individual body. There is a rationalization of the body and of bodily functions and morphologies. Consolidation of pornography as perspectival sex. The Lutheran reformation in 1517 starts a new age of puritanism, sexphobia, and somatophobia (later ensuing in Victorian morality, now perpetuated in Facebook's censorship and modesty morality), including a new bodily regime by which certain body parts that could previously be exposed, like women's breasts, now need to be hidden, unlike those of men.
10. Around 400 years ago (1637, *Discourse on Method* by René Descartes; 1687, *Laws of Motion* by Isaac Newton): *mechanization of sex.* Cartesianism and mechanism develop a deterministic ontology in which the mechanic metaphor dominates the social and individual body as further elaboration of perspectival paradigms. There is a consolidation of mechanical reproductive sex and of sex as mechanism.
11. Around 300 years ago (1760, first industrial revolution; 1789, French Revolution): *privatization, profiling,* and *medicalization of sex.* The rise of disciplinary society consolidates a sexual mechanics in the Industrial Era where all previous organizations of sex are captured in the nuclear family in order to avoid thermodynamic loss in relation to the dominant industrial paradigm, which culminates in Victorian morality. There is a reduction of sex to controlled reproduction of an entity and a proliferation of machines of measurement and biologization of the body profiling individuals and populations, biopolitics (Foucault 2003), state racism, and the police state. Sovereign power becomes disciplinary due to the explosion of measurement and profiling techniques, as increasing abstraction of power relations in the new era after the French Revolution. This is followed by the medicalization of sexuality and pathologization of homosexuality and, later, the first homosexual movements in Germany at the end of the nineteenth century.

**Algoricene II: Hypercene — Hypersex — Electrochemical Metafield — Hyperalgorithmic**

12. Around eighty years ago (1947–48 to now): *genderization* and *mass pornification of sex* — cybernetics, information, and computation. Human rights are defined by the United Nations General Assembly in 1948. Definitions of gender identity proliferate since the 1950s. There is the emergence of an informational or cybernetic capitalism that allows the capitalization of previously useless flows of desire by creating minority market niches while expanding normative frameworks inherited from globalized Victorian morality with the explosion of ubiquitous information media. The sexual revolution in the 1960s and '70s follows and with it the sexual liberation movements. There is a chemical control of bodies (Fausto-Sterling 2000). Useless desires are capitalized following Claude Shannon's equation in which more entropy equals more information, and there is a gradual shift from biopower to ontopower, from management of the existing to preemption of the emergent and future. Dynamic patterns can now be generated out of noise. Any potential sex deviation may become an information pattern.
13. Around forty years ago (1984–2001): *cybernetic sex.* There is a digitization and epidemiology of sex during the AIDS era and a development of immunology as cultural paradigm. Cybersex and computer viruses emerge, and there is an expansion of digital capitalism and global trafficking of women. Global pornography expands as a new mode of control through the dissemination of contagious gestures in a global sex (Altman 2001) and internet panopticon, in a panchoreographic of screen-based media that disseminates homogeneous gestures, along with a globalization of a gay capitalist culture (Sinfield 2000).
14. Around twenty years ago (2001–13): *biometric–postcybernetic–topological–big data sex* — 9/11. A postcybernetic sex emerges and with it the expansion of biometrics to all scales of matter, the advance of computerized analysis of behavior and Big Data, dating (social control) networks. There are new forms of implicit and explicit sex work, capitalization of all affective and sexual activities, and a proliferation of sex deviant movements: queer movements, postporn, sex work, polyamory, public sex, and body freedom, neurodiversity, crip, migrants, Indigenous, and decolonial movements.
15. Now and in the future (2013 until 2045–50): *cyborg orgy, algorithmic orgy, extinction orgy* — post-Snowden, loss of informational innocence — Big B.A.N.G. of convergent technologies. This is the onset of algorithmic governmentality and hyperalgorithmic sex mediated by opaque autonomous algorithms. In 2020, the Covid-19 pandemic unleashes a new global economy of movement based on social distancing and unprecedented control of molecular intimacy between bodies. Potential mutations of sex are preempted and capitalized with a proliferation of novel practices of algorithmic sex and the algorithmic modulation of bioengineering, nanoengineering, virtual reality, and neuroengineering. It's the chemsex era and PREP world. A porn regime expands in VR, neurostimulation, and the internet of things. Big data sex advances as the continuous modulation of body and desire compositions in planetary scale computation systems. There is then the singularity of pandemics, climate change, overpopulation, and AI, a consolidation of the hypercyborg, implosion of the black hole of the human algorithm toward a black hole, a supernova, a hybrid monster, a new kind of orgy: most likely an EXTINCTION orgy.

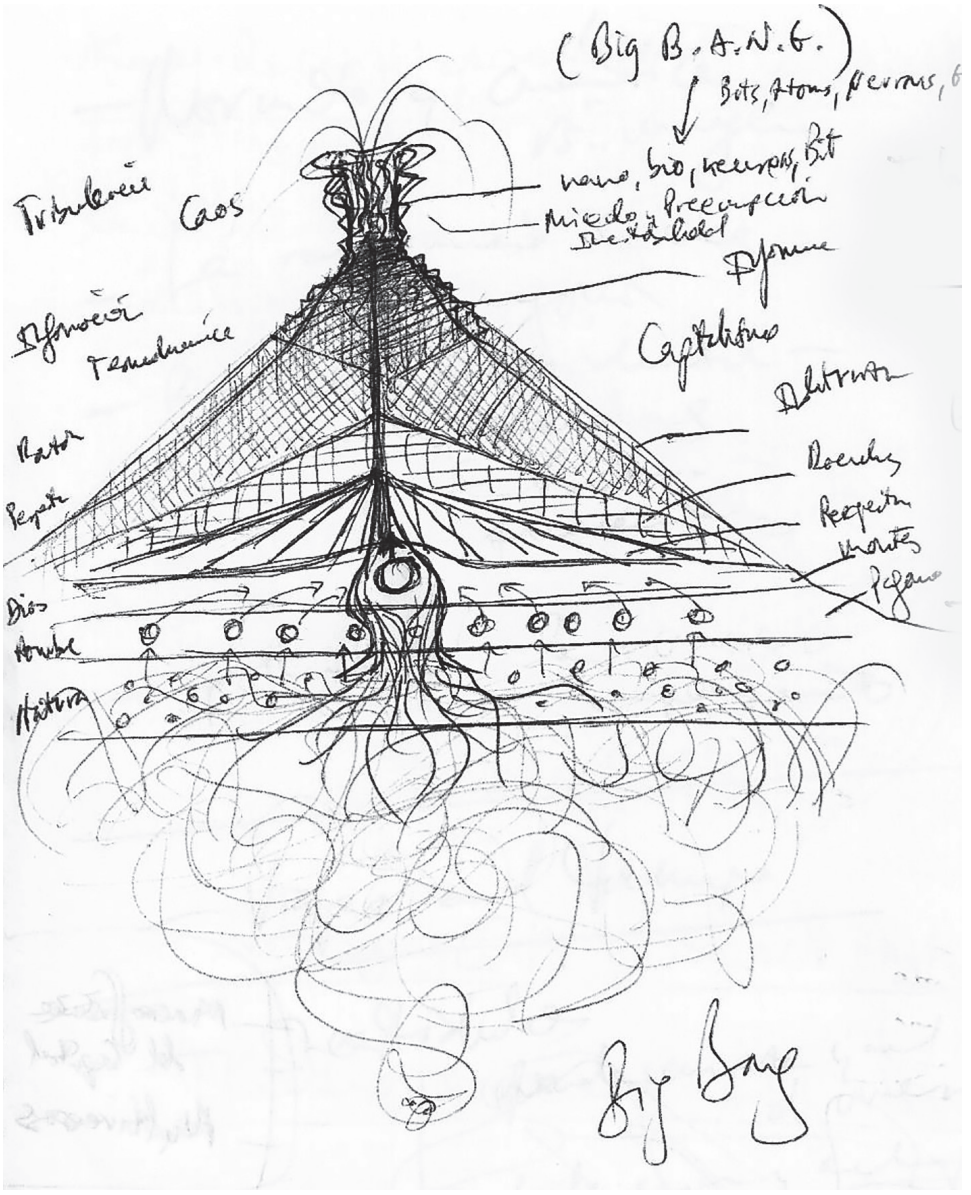



*Fig. 36.* The volcano diagram of the singularity.

In this genealogy, stellar and bacterial sex can be seen as variations toward greater plasticity as new kinds of movement unfold, while in meiotic sex a potential reductive turn appears. Every turn appearing after meiotic sex can be seen as an overcodification of the previous one along a spiral of reduction.

Is the Algoricene a counterevolutional fold within this universe? Are we becoming appendixes and slaves of an algorithmic orgy? Is the cyborg orgy the mode of modern war? Can the orgy be a potential creative outcome of a planetary cyborg? Or is extinction the only *telos* of the cyborg orgy and its epochal alignments?

Neither human, nor cyborg. I'd rather be a bitch and a molecular swarm.

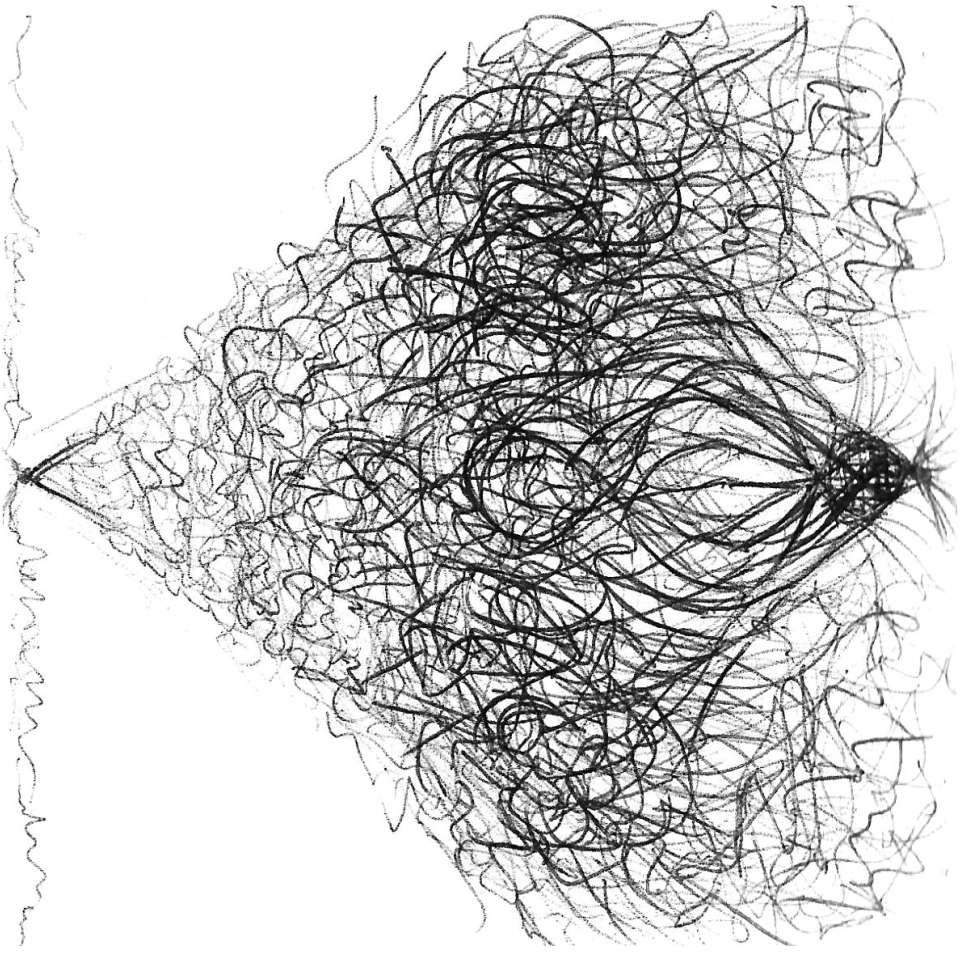


*Fig. 37.* Cosmic anomaly diagram. From the singularity of the Big Bang of this universe emerging from quantum foam unfolding in variation, to the Big B.A.N.G. of convergent technologies in the Algoricene, accelerating toward a singularity of reduction.

Evolution is orgiastic, a viral movement of mutation. The age of algorithms and pandemics needs to be overcome with a truly viral and orgiastic movement of mutation–variation.

The future is orgiastic.

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